A STUDY ON

"SOOLI KANAM"

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of

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GOVT SIDDHA MEDICAL COLLEGE

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BONAFIDE CERTIFICATE

This is to certify that the dissertation entitled **"A STUDY ON SOOLI KANAM"** is a Bonafide work done by **DR.K.BALAJI, GOVERNMENT SIDDDHA MEDICAL COLLEGE, PALYAMKOTTAI** in partial fulfillment of the university rules and regulations for award of **M.D (SIDDHA), BRANCH – IV KUZHANTHAI MARUTHUVAM** under my guidance and supervision during the academic year **2013 – 2016 OCTOBER.**

Name and Signature of the Guide :

Name and Signature of the Head of the Department :

Name and Signature of the Principal :

GOVERNMENT SIDDHA MEDICAL COLLEGE, PALAYAMKOTTAI

DECLARATION BY THE CANDIDATE

I hearby declare that this dissertation entitled **"A STUDY ON SOOLI KANAM"** is a Bonafide and genuine research work carried out by me under the guidance of **Prof.DR.D.K.SOUNDARARAJAN, M.D (S).,** Head of the Department, post graduate department of **Kuzhanthai Maruthuvam,** Government Siddha Medical College, Palyamkottai and the dissertation has not formed the basis for the award of any degree, Diploma, fellowship or other similar title.

Date :

Place :

Signature of the candidate

(Dr.K.Balaji)

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CONTENT

INTRODUCTION

Medicine is an art of fundamental to the health survival of humanity. Siddha system of Medicine is unique and is perpetuating for centuries because of its merits. This system of medicine developed within the Dravidian culture, which is of pre-vedic period. It is a divine system of Medicine which speaks not only about *Vingnanam* but also about *Meingnanam*. Siddhars used herbs, metals, minerals and any organic material, available in the universe as a medicine, which shows their abundant knowledge in various branches of medicine.

According to Siddha concept, Disease is caused when the normal equilibrium of 3 humours [Vatham, Pitham and Kabam] is disturbed. The factors which affect this equilibrium are environment, climatic conditions, diet and physical activities. ***''KuzhanthaiMaruthuvam''*** is one among the glorious branches of Siddha system inside which is hidden an enormous treasure for a healthy society.

Here ***''SooliKanam''*** is specifically taken for the Dissertation Subject as it probably correlates with the Childhood Asthma, which is a respiratory disease encountered by a large population of children today and limits their daily activities.

The Trial Drug ***''BalakabahariMathirai''*** is chosen on the basis of classical attributes of respective ingredients according to the doctrine of *Suvai*(taste) , *Gunam*(property), *Pirivu*(metabolic changes after digestion) ,*Veeriam*(potency) and *Seigai*(specific action which would pacify the vitiated humors in *SooliKanam*).

Therefore I expect this Sasthric Medicine to be safe and efficient in reducing the symptoms of *SooliKanam* and bring quick recovery.

AIM AND OBJECTIVES

AIM

The principal aim of the present clinical study is to evaluate the efficacy of the Trial Drug ‘‘*BalakabahariMathirai*’’ in the treatment of *SooliKanam* without any side effects and to ensure a new approach in the diagnosis and treatment of disease.

OBJECTIVES

The Main objective of the present study is to create awareness about the Siddha system and to highlight the efficacy of Siddha drugs among the public.

To explore the Etiology, Clinical Features, Diagnosis and Investigations of *SooliKanam* through various Siddha classical texts.

To know the extent of correlation of Etiopathogenesis, Signs and Symptoms of SooliKanam with BalakabahariMathirai.

To analyse the Biochemical, Pharmacological, Antimicrobial actions of the trial drug and its therapeutic phyto-constituents.

To educate the Patients and their Parents in terms of prevention of disease, diet, habits and the importance of Pranayama and Yogasanas.

REVIEW OF SIDDHA LITERATURE

f z k

r‰j j kUj J t K i wa‰y Foe i j f s‰d Neha f z ‰gg‰y f z k myy J f i z v dgJ K f f‰akh d jhFk.

,ay:

“f z k” v dgJ ‘fhggr # L” v d f $W t h. khe j j j‰d n j hl h NehNa f z khFk. ,J Fot‰f F khej Neha Vwgl L KO t J k F z khfhky c ly‰y ,UeNj Kww‰t Uk.

‘fh‰K f d b i a th oj j‰f fky th r d‰i ag Nghww‰

mh‰a n rej k‰o‰dhNy a f j j‰a K d‰t d n rhd d

ngh‰a kh t‰ahj‰ahd NgRk f f i z a‰d Nwh\k

n jh‰aNt Gt‰a‰d kJ n rgGNt d r‰e i j i t jNj.”

❖ guuhrNr fuk ghyNuhf e‰jhd k

f z k - nghUs t‰s f f k

T.V. rhkgr‰t k g‰s i s m fuhj‰› jk‰onkho‰ m fuhj‰› fkgh - jk‰o m fuhj‰ Nghdw E}y f s‰y ‘f z k” v dw thhj i j f Fg g‰d t Uk nghUs $wggl L s s J.

‘xU Neha”› ‘F i wT”› ‘$ l l k”› ‘j‰ul r‰”

NkYk ‘f i z” v dgj i d ‘mkG” v dTk nghUs n fhs s yhk. Nghhf f s j j‰y mkg‰i d j njhL f FkNghJ khhigf Fw‰i t jNj nrYj J t J Nghy f i z Neha‰Yk K j d i kahf ghj‰f f ggLk c ly‰d gF j‰ khhG v dgjhy ,eNehaf F ,gngah m i kej‰Uf f yhk. v dNt f z k v dgj i d j‰ul r‰ahd gy Fw‰F z qfs nfh z l khhg‰i d K j d i kahf ghj‰f F k Nehae‰i y v d mw‰ayhk.

Neha t Uk to‰

- t Uk to‰a‰i d nghWj J - 2 t i f
- t aj‰i d nghWj J - 1 t i f

I. t Uk to‰a‰i d nghWj J›

I. fhggr # L &

II. khe j j j‰d n j hl h Neha.

II. tajpid nghWjJ - ghYk NrhWk cz Zk gUtk

fhggr #L :

‘gpwejehs gps isfFj jhNd edwha
gpjhthNy gp zpAlypd NkNy NjhdWk
rpwejgp zp fz khejk fugghd Njhlk”

❖ Foeij kUjJtk ghythflk

vdNt ,eNeha mfffhuzqfisg gwwpaJ vdTk› ‘gpjhthNy gpzpAlypd NkNy NjhdWk” vdgjhy rpjj kUjJtjjpy mfffhuzqfSfF Kjwfhuzk ‘jeij” vdgJk Gydhfpwj.

mJ vtthnwdpy jeijapd RffpyNjhlk jhapd ehjjJld fygGWfpdwNghJ czlhFk Neha fzk (m) fhggr#L vd mwpaggLfpwJ.

fytpapy VwgLk tpfwgk :

jhahdts jiyfF vznza NjajJ Fspjj gpd czT czL› kaffk› Nfhgk› jhfk Kjypatwwhy gLjJ cwqfp mjd fhuzkhf Nky NehfFqfhy kpFjpgglL ,UfFk fhyjjpy GUl irNahfk nrajhYk› Mltd fhiyapy gioaJ czlTld typeJ ngzizg GzheJ› ntapypy jphpejgpd ,utpYk ,uhTzT czl clNdAk GzhejhYk› moyhdJ fpshrrpAwW #L czlhFk. ,ggbggll fhyjjpy jqfp gpwfFk FoeijfF fhggr#L czlhfp› khejk kwWk fz Neha Vwglf $Lk.

ghythflk - khejfzk

fU cwgjjpapy thAffspd gqF

‘tpsqFfpdw mghd thA ntspapdpwFk
tpeJTld gpuhz thA gpdqf shFk
fyqFfpdw cjhddJ fUit tshfFk
fUtjwFs tpid%dWk fyfFk ghU”

vdW A+fp Kdpth $Wtjhy mghdd ntspapypUggjhfTk› gpuhz thA tpeJTld clnryYtjhfTk› mJ jpuzl ehjjijg gy

gpddqfshfFtjhfTk› fUit cjhdthA tshggjhfTk› fUtpy tpidfs %dWk Nrhtjhf Tk cz uyhk.

NkYk gpuhz thA tpeJtpwF capNuhllk mspggjhy gpuhzd ghjpggilAk NghJ fUthdJ Nghlzpffgglhky fUcwgjjpapy FiwT VwglL› moy Fwwk tshrrp mileJ fUtshej gpdGk› mfFwwk ehsgl tsheJ fzjjpd FwpF zqfisj NjhwWtpffpdwJ.

‘cddpa fhgf Fopahk ntspapNy
gddpa ehjk gfhej gpUjptp
tddpAk thAT khAWQ Rffpyk
kddpa rkdha tshfF KjfNk”

❖ jpUkejpuk

NkYk

‘ghdikvdw tpejqNf CWkNghJ
ghAklh tddpNahL thAjhNd”

❖ mfjjpah tyyhjp ehbE}y

vdNt fUtpwF tpeJtypUeJ thjk› gpjjk vd ,uzL jhJffSk› cjfeh› ehjk ,twwpypUeJ fgKk fpilffpdwJ.

‘ tddpAk that khAWQ Rffpyk” vdW $wggLtjhy› fUTWk fhyjjpy thAthdJ tpeJit vLjJr nryYk vdgJk› tddp vdDk moy mjid fhjJ epwFk vdgJk Gydhfpdw J. ,jjAk› thATk jddstpy kpFjpgglL fUitj jhfFk NghJ mJ fdypy mbgglL gpzlkhf khwp ‘fzk” czlhfpwJ vdgJ rpjj kUjJtjjpd Jzp T.

fzk NjhdWtjwF jha fhuzkhjy

‘laJ $bw nwdwhy mhpitah Jaue jddhy
nraagw GdyUejp nrwpry Njhle jddhy
igau tyF yhSk grpAl dpUjj yhYk
JaaNjhh Fotp flFf fzqfSe NjhdW kdNw”

❖ mNahjjpjhrh ghy thflk

- lak jddstpy kpFjy
- mhpitaUfF (20 - 25 taJ epukgpa ngz) VwgLk Jauk
- ghY}lLk ngz fs grpAl dpUjjy

- ryNjhlk

,ffhuzqfshy mjjhia mzb thOk Foeijaɒd cly ghjɒffgglL FoeijfSfF fzNeha VwgLfɒwJ.

,ttɒU E}yfsɒd $wWgb RffɒyjJld moyjhJ cssJ vd mwɒayhk. ,tthW RffɒyjJld $ba moyjhJ jddstɒy kɒFjɒgLtjhy Rffɒyjjɒy tɒfwgk VwglL fUtɒd moyjhJ khWgLfɒwJ. ,jdhy fUtɒwF #L mjɒfkhfɒwJ. ,jidNa ‘fhggr#L” vdf nfhssyhk.

II. **khejjjɒd njhlh NehNa fzkhFk**:

khej Neha VwglL KOtJk Fzkhfhky clyɒy ,UeNj KwwɒtUk.

kejk vdgJ cUt eɒiyaɒy clyeɒiyaɒy kejk› mjhtJ jhaɒd czthjɒ goffqfshy Fwwqfs NflilAk NghJ FoeijfSfF NjhdWk NfhshWfs khej Neha MFk.

khejk njhlheJ eɒiyggjhy›

- cztɒd rhuk clwflLfSfF Nrhtjɒy jilfs VwgLfɒwJ.
- rhuk nreeuhf khWk jdik ghjɒffggLfɒwJ.
- kww clwflLfs Nghl zɒffggLtjɒy ghjɒgG
- clwflLfsɒd tdik FiwfɒwJ.
- fzjjɒd FwɒFzqfs NjhdWfɒwJ.

II. **tajɒid nghWjJ**:

fzk NjhdWk taJggwwɒgɒdtUk thɒfshy mwɒayhk.

‘vddNt fz%dW tUle njhlNl

Vohz L klLfF kUfFq fhyk”

❖ ghythflk

vdw ghlyɒdhy %dW MzL Kjy VO MzL tiu tUk Neha vdgij mwɒayhk.

Neha tUk toɒ:

I. Foeij kUjJtk (ghy thflk) E}y fzk NjhdWtjwfhd toɒfis gɒdtUkhW $WfɒwJ.

‘laJ $bw nwdwhy mhɒitah Jaue jddhy

nragw GdyUejpr nrwpry Njhle j d dhy
igau tyF yhSk grpAl dpUej jhYk
JaaNjhh Fotp flFf f z qf Se NjhdW kdNw".

- Foe i j kUjJtk

(g.v z .192).

nghUs :

lakhdJ j d d s tpy ,UeJ $L tjhYk› mhpi tahfF (mhpi tah vdgJ ng z fspd gUtqfspy xdwhFk) NeUk Jaujjhyk› gyNtW t i fggll ehpid gUF tjhy c z lhFk ryNjhljjhYk› grpAld ,UfFk jhapd ghiy c z gjhYk› Foe i jf SfF f z Neha NjhdWk.

II. gpwE}y f spy $wggl L s s Neha tUk top:

- FkgKdp ghy thflk vd Dk Vlby f z jjpd Neha tUk topgwwp gpd tUkhW $WfpwJ.

‘ju z pj dpNyAW NraUlY jdpNy tU f i z Nuhf tuyhW Nfs
fdpTngW nfwgkpy nu z kJ #bdhy NghfkJ kpF #bdhy
tputpDlNd gy Njhrkjpdhypdp jhapDl ghy Nt tpdhy
tps Sgy tprkjhy japDl fhq i faha ,snt apY nfhs syhYk
cuAkhfhukJ F iwAkjpdhypdp c z Z ghy Ngjkjpdhy
cwkhfNt fLk #LlNd c z z yhy Gspjj t if c z z yhYk
GiuNkTk mjpf ngUk fhut if jpdgjhy mjjpaJ #L kpQrp
GfOhpa khkprk fUfpaJ nu z Nk twwpaJNt naOkGk”

- FkgKdp ghy thflk ghly v z-451 (g.v z .113).

nghUs :

nfwgk jhpjjpUfFk rkajjpy Gz VwgL tjhYk› c z T kpFjpahf clnfhs tjhYk› jhafF VwgLk Njhrqfshyk› jhaghy ,Wfp fbdgglL nfhs tjhYk› jhafF gy tplqfs VwgL tjhYk› cly #lbdhYk› nta pypy jphptjhYk› c z T F iwthf clnfhs tjhYk› clnfhs Sk ghypy VwgLk Ngjjjpdhyk› kpf #lhd

czit clnfhstjhYk Gspjj czT tiffis cz zyhYk› fhutif czTfis kpFjpahf nfhstjhYk› fhggigapd #L kpFjpahfp fhggjjpy csskftpd clynkypeJ fzkNjhdWk.

❖ jpUtsSt ehadhh ,awwpa etujjpd rpejhkzp-800 vdDk E}ypy gpdtUkhW $wggLfpwJ.

‘ghuhd nfwgntlil kUkgfFtjjpy
Ntuhd tpeJ ntspglL Nahdp tpOej njdwhw
fhuhd gpzlq fdypybglLf fhejpapdhw
$uha fzRunkaJ nkdNwahd $wpNdNk”

❖ etujjpd rpejhkzp-800

nghUs :

nfwgntlil kwpapUfFk Neujjpy fUTwwpUfFk jhAld jeij Nrhtjhy fUthdJ (gpzlkhdJ) fdypy mbglL fzk tUfpwJ.

❖ jdtejph itjjpak vdDk E}ypy gpdtUkhW $wggLfpwJ.

‘rhpa njhdik nraj jtpid jeijahfg
ghhpypg gpwggpw nraj ghtNk jhajhfg
Nghpa raf Fkhud tpwejpyh fpwkjjgNg
fhhpa nrtpypj jhaha fzk ngw tsUk ehspy”

❖ jdtejph itjjpak.

nghUs :

Kwgpwtpapy nraj jtpidfs jeijahfTk ,ggpwtpapy nraj jtpidfs jhahfTk nfhzL \af Fkhudhfpa fzkNjhdWfpwJ›

❖ ruNgejpu itjjpa Kiwfs fhggpzp ghyNuhf rpfprir gpdtUkhW $Wfpwj.

‘NjhdWkaa gjhhjjeNjhaggif
A+dW jhfkgrpkpFe Jwwpby
Vdw Jdgnkyyhk teJ #ojyhy
MdwNrafFf fzqfSkhFNk”

❖ ruNgejpu itjjpaKiwfs-fhggpzp ghyNuhf rpfprir (g.vz.57)

nghUs :

k‰Fj‰ahff fgj i j t‰Ujj‰ nraaf$ba gjhhjjqf i s rhgg‰L t j‰dhYk› gr‰Ak mj‰fkhf ,Uf i fa‰y j z z h mUeJ t j‰dhYk gwgy f z Nuhfqf s Foe i j f SfF c z lhFk.

Neha NjhdWk taJ :

f z k NjhdWk taJ gww‰ gyNtW fUjJfs cssd. f z k Foe i j f s ghYk FbjJ NrhWk c z Zk gUt j j‰y tUk NehahFk. ,J Foe i ja‰d %dwhkh z L Kjy Vohkh z L t i u tUk Neha vdg i j›

‘v d dNt f z %dW tUle njhlNl
Voh z L klLfF k‰UfFq fhyk’

- ghy thf l k.
- v d Dk nraAs th‰f shy mw‰ayhk.

, i j j t‰u›

guuhr Nrfuk vDk E}y‰y ghyNuhf e‰jhd gl y j j‰y f z k Foe i j f s‰d 12 taJ t i ua‰Yk fh Zk Neha v d $Wf‰wJ.

mjht J

‘v dw Njhh f i z f lhKk‰ggb naOeJ nghq f‰
e‰dw Ngh gj‰n d lL jhd‰iwej‰U kh z bd Nkyhaf
f dw‰a ghyh nkaa‰w g d d‰u z lh z L fhWk
e‰dw‰L nkdW K d dh z ‰f oj j‰d d K d‰t d dNw”

- guuhr Nrfuk (ghyNuhf e‰jhdk)

- ghy thf l k E}y‰y f ofh Zk hW $wggL f‰wJ.

‘kyKQ ryK k‰f j jaeJ khhg‰y j‰f Ruq fhAk
kyKk ta‰W k‰f nth‰Ak t skha j i yA k‰f kaqFk
ryKk tus j jhd F iwAk r z lhsk NghY l Rukhk
j yNk g d d‰u z lh z L klLk j d jha tUcq F z k‰JNt”

- ghy thf l k

vdNt› f z khd J Foe i j gpwej J K jy 12 M z L t iuNjhdWk Neha vd Tk nfhs syhk.

f z jjpd t iffs :

gy E}y fspy gyt iffspy f z k t ifggL jjggl L , Uffpwj.

❖ ghy thflk E}ypy 24 t i fahf $wggLfpwJ.

‘f z qflNgh tphpjj iwaf Nfsed whff
f d thj f z kgpjj f z q Fsphej
k z khd Nrjkf z k gps i s flF
khej f z k mjpwgphpT lejhk , gghy
J z khehf f z kgpuspf f z K eyy
#ypf z Q Ropf z kfh f z ejhd
F z khd C J f z k tulf z ejhd
nfhjpgGf z k t f f f z k , d d q NfNs

NfNs e gpwf f z Kk mej f d j d
f z Kkke jhuf z k vhpf z ejhd
KNse uhkf z k Mkf z nkj j
KfFf z k %yf z k Nguh k j jpd
thNs rpq fpNahbujj f z khk vyyhk
tUj J iujj jpUg/J ehd F khff
NfhNs J , i t jhNd kUj J E}ypd
Fwpggwpejhhf fyyhky kwNwhhf NfNj”

❖ ghy thflk

1. t spf z k
2. moy f z k
3. la f z k
4. khej f z k
5. ehf f z k
6. gpuspf f z k
7. #ypf z k
13. t f f f f z k
14. gpwf f z k
15. mej f f f z k
16. kejhu f z k
17. vhp f z k
18. euhk f z k
19. Mk f z k

8. Rop f z k
9. k f h f z k
10. C J f z k
11. t u s f z k
12. n f h j pgG f z k
20. K f F f z k
21. % y f z k
22. Nguhk f z k
23. u j j f z k
24. r pq f p khej f z k

mNahj j pjhrh ghy thf l k E}y py 24 t i f ahf $ wggL f pwJ.

m i t f s :

1. t s pf z k
2. mowf z k
3. l a f z k
4. khej f z k
5. ehf f z k
6. g pus pf f z k
7. # y pf z k
8. Ro pf z k
9. k f hf z k
10. C J f z k
11. t u s f z k
12. n f h j pgG f z k
13. t f f f z k
14. g pwf f z k
15. mej f f z k
16. kejhu f z k
17. vh p f z k
18. euhk f z k
19. M k f z k
20. K f F f z k
21. % y f z k
22. Nguhk f z k
23. u j j f z k
24. r pq f p khej f z k

M t pas pf Fk mK j K i wr RU f f k - v D k E}y 23 t i f ahf $ W f pwJ

m i t f s :

1. t hj f z k
2. g pj j f z k
3. r pNy j Jk f z k
4. khej f z k
5. ehf f z k
6. g pus p f z k
7. # i y f f z k
8. Ro p f z k
9. k f h f z k
13. t f f f z k
14. g pwf f z k
15. M k f f z k
16. t w l r p f z k
17. K f F f z k
18. Nghh f f z k
19. , u j j f z k
20. e r R khej f z k
21. C J khej f z k

10. C J f z k
11. t w l r p f z k
12. n f h j pgG f z k
22. vh p f z k
23. k e j h u f z k

‘j h d h d Nj i u f z k KfF f z e j h d
j d pa h d %y f z k Ngh h f z e j h d
C d h d u j j f z k t pl k h e j f z Kk
C J k h e j f f z k h k k h e j f z e j h Dk
Nfh d h d k e j h u f z Ke j h Dk
$uh d vh p f z k h k pUg j J %dWk
gh d h d f z q f s g d d pu z L k l Lk
gh y f h f F NeUn k d W g f h e j j h Nk”

❖ M t pa s pf Fk m Kj K i w r RU f f k.

M j k u l r h k ph j k v Dk i t j j pa r h u r q f pu f k v d Dk E}y py g pd t UkhW $wggL f pwJ.

‘gh u g g h f z t FgG g j pn d l l h Fk
ghb d h h t h j f z k g pj j f z Nk h L
Neu g g h Nr j k f z k k h e j f z k pd d k
eh f f z Q # i y f f z k g pu s pf z e j h d
r h u g g h C J f z k Ro pf z e j h d
rh h t h d k h f z Kk t u l f z e j h d
$u g g h n f h j pgG f z k g pw f f z e j h d
Fw pg g w p t h i a i a e J f z Kk h Nk”

- M j k u l r h k ph j k.

k h e j K j phe J›

1. t h j f z k
2. g pj j f z k
3. Nr j k f z k
4. k h e j f z k
5. eh f f z k
6. # i y f f z k
7. g pu s pf f z k
14.. t f f f z k
15. Mk f f z k
16. Nj i u f f z k
17. K f F f z k
18. %y f f z k
19. Ngh h f f z k
20. , u j j f f z k

8. C J f z k
9. Ro f z k
10. khf z k
11. t u l f z k
12. n f h j gG f z k
13. g w f f z k

21. t \ khej f z k
22. C J khej f z k
23. mej f f z k
24. kejhu f z k
25. vh f z k

vd f z q f s 25 t i fggLk.

guuhr Nrfuk vDk E}y y f z j j d t i f f s - 18 v d W $ W f wJ.
m j h t J›
‘cunkDq f i z f z KdNdUiujjhtWiugglf Nf z k d
RunkDw f i z AnkhdW J}qFkf f i z AnkhdW
e u t a %y k ujj eqfUk t u l r n t gGf
fUTW k d y d t q f $baNjhh kQr z y d
eykhq f i z a NdL e dw L n t SgG khFk
rhyNt r j j NkYe jgg yh khej Nkfk
Nkyjhk t i d f s Nghy k Fej Lw fo rry fhrk
M y k hh Uk n t agG kht i t gj n d l lhNk”.

- guuhrNrfuk.

1. t h j f i z
2. g j j f i z
3. Ruf f i z
4. m j j Ruf i z
5. t u l f i z
6. t h y r e j u f i z
7. kNfej u f i z
8. J}f F f i z
9. m d w f i z

10. t q F f i z
11. n t SgGf i z
12. r j j f i z
13. ,u j j f i z
14. %y f f i z
15. f Uq f i z
16. kQr l f i z
17. e y f f i z
18. n t gGf i z

FkgK d ghy t h f l k vDk E}y f z j i j 18 t i f ahf $ W f wJ.
‘khJ f d Nt h b d Nf S k nuh d g j y NgU t i f ah d j e
kUT RuNkhb d J}qF f i z nu j j Kk t w l i r NahL n t gG f i z Ak
NghjNkhL t q f Y k m d y f i z khejKk kQr S k eykJ Tk

nghqfpLk rhjjpNahL ujjKk NkfKlNd thNyejpud thiy rejpud NkhJkpdp mjjpapd Ruffid kNfejpu cs SNuhfk ngahpitfs KiwahfNt apit tifa njhdW Nkyjha <uhW taJ klLk NfhjfY ghyiu thijaJ nraANk Fz NkhlT rjqfs $whfNtapdp NkyhY iuffpNwd xtnthdWk Cdwp mwpNa”

- FkgKdp ghy thflk. ghly vz .452 (gff vz .114).

mitfs:

1. Ruffiz
2. J}qFfiz
3. %ynujjffiz
4. twlirffiz
5. ntgGfis
6. mdyfiz
7. tqFfiz
8. khejffiz
9. kQrsfiz
10. eyffiz
11. rjjpffiz
12. nujjffiz
13. Nkfffiz
14. mjjprRuffiz
15. thNyejpuffiz
16. thy rejpuf fiz
17. kNfejpuffiz
18. cs S Nuhff fiz

7. [tulrhkphjk vDk E}y - 8 tifahf $WfpwJ.
   1. #ypfzk
   2. KfFfzk
   3. Mkfzk
   4. Njiufzk
   5. kfhfzk
   6. Ropfzk
   7. fopfzk
   8. tusfzk

8. gpsisggpzp thflk vDk E}y 8 tifahf $WfpwJ.
   1. tusfzk
   2. %yfzk
   3. rjfzk
   4. ,jafzk
   5. kfhfzk
   6. kyffzk
   7. Fzlypafzk
   8. ehfzk

jdtejphp itjjpak raNuhf epjhdk vdDk E}ypd gb 7 tifahf $wggLfpwJ.

mitfs›

1. thy rak
2. tu rak
5. jgd rak
6. rak

3. jUz rak

4. f z p f rak

7. Mhjk

ruNgejpu itjjpa Kiwfs fhggpz p ghyNuhf rpfprir vdDk E}y $Wk tiffs

1. ehff z k

2. twlf z k

3. vhpf z k

4. Ropf z k

5. %yf z k

6. KfF f z k

7. tp\f z k

8. Mk f z k

9. kejhuf f z k

10. mejf f z k

11. Ruf z k

12. mffuf f z k

13. Fdwpaffu f z k

14. Cj f z k

-vd f z jjpd tiffs $wgglLssd

f z jjpd nghJ FwpF z qfs :

I. **ghythflk $Wk FwpF z qfs :**

1. **nghJthd FwpF z qfs** :

- Foeijf SfF khejNeha gyKiw teJ KwwpYk F z kilahky ,Uggjhy ,eNeha c z lhFk.
- moy mjpfkhfp moy j z ptjwF topapyyhky FoeijfF mjpfkhd #L c z lhfp cly vgnghOJk #lhf fh z y.
- nrhyy Kbahjgb gytpjkhd NtWghL clygpy Vwgly
- f z fspd epwk ,awif epwjjpwF khwp fh z ggly
- f z ntUz L ghhjjy
- Kfjjpy rpwpJ tpahit c z lhjy
- Foeij jhia tplhky gpbjJf nfhs Sk
- iffs› fhyfs. Kfk ,it fWjjy
- if› fhy› Kfk rpyrkajjpy vhpeJk FspheJk ntJgGz lhjy
- kaffK z lhjy

II. **Rthrhrajij gwwpa FwpF z qfs :**

- Nky%rR
- fhfh vdDk xypAld ,Uky

- nghWjJ nghWjJ Ruk fhajy
- njhz il fkkyhfg Ngry
- mdy tRtJ NghdW clRuk fhzy
- khhG $kGNghy vOkgp fhzy

III. **Mkhrajij gwwpa FwpFzqfs** :

- ehNtffhL
- tha cyhjy› eh tusy
- ehNtlif
- tha ehwwk
- grpjj Fiwjy
- tapW Nehjy
- tapW cggy
- tapWk kyjJ thuKk kpf vhpjy
- fzRujjpy kyk csNs jqfptply (kyrrpffy)
- kyk ntlilahjy (ntsisepwkyk)
- ehRUqfy
- tapW fopjy
- Ngjp

  - kykvznza frpTssjhf ,Ujjy
  - kythapypUeJ vgnghOJk Cd fOtpd ehpd epwjij NghdW eh frpeJ nfhzNlapUjjy.
  - rpy FoeijfSfF rjkhfTk› ,ujjkhfTk› rjKk ,ujjKk fyeJk Ngjpahjy.
  - rpy FoeijfSfF ntsis epwjJld jz zhNtW kyk NtwhfTk fopjy.

KfFww NtWghLfs :

thjk› gpjjk› fgk Mfpa %dWk jddpiyapy khwwk milAk NghJ Neha czlhfpwJ.

‘eLqfpaNjhh gpjjkJ Nfhgqnfhz L
eyy thAit gwwpaOjjpf nfhsSk”

- ghythflk

Kjypy gpjjNjhlk ghjpggileJ (jddpiy tshrrp milfpwJ) tspFwwjjpd njhopiyAk (NtwWepiy tshrrp mileJ) ghjpggjhf nfhssyhk. ,jidNa›

‘kejkyhJ thA tuhJ”

❖ Njud Nrfuggh.

vdw ghlyhy kejjjpdhy (gpjjFwwk Nfliltjhy) thA czlhFk vd mwpayhk. NkYk›

‘laJ $bw nwdwhy”

❖ ghythflk

lafFwwk jddpiyapy tshrrp miljy vd nghUsgLk. ,jidNa›

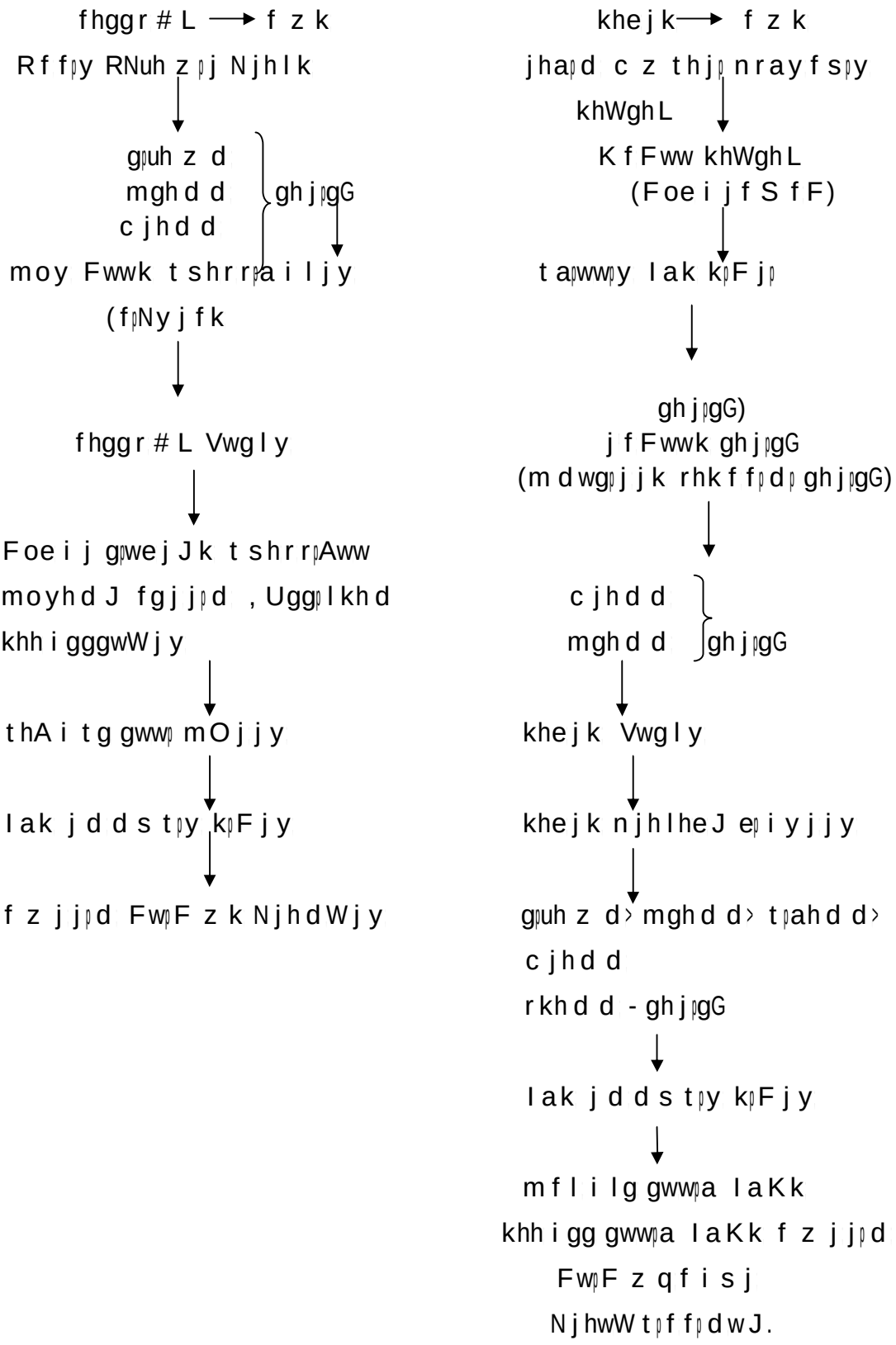
‘fgjjpidadwp fhrRthrk fhzhJ”

Njiuah-gpzpfspd Kjwfhuzk.

vdw ghlyhy fgfFwwk Nflilahky fhrk› Rthrk› \ak fhzhJ vd mwpayhk.

vdNt›

gpjj Fwwk NflileJ thjjij gwwp thjfFwwKk NflileJ fg ,Uggplkhd khhG› jiy ,ttplqfis gwWtjhy fgFwwKk jddpiy tshrrp mileJ ‘fzNeha” czlhfpwJ.


fhggr # L → f z k
Rf f℘y RNuh z ℘j Njh l k
g℘uh z d
mghd d
cjhd d
ghj℘gG
moy Fwwk t shrr℘a i l j y
(f℘Nyj f k
fhggr # L Vwgl y
Foe i j g℘wej Jk t shrr℘Aww
moyhd J fgj j℘d , Ugg℘l khd
khh i gggwWj y
thA i t g gww℘ mO j j y
l ak j d d s t℘y k℘F j y
f z j j℘d Fw℘F z k NjhdWj y
khejk → f z k
jha℘d c z thj℘ nrayf s℘y
khWghL
K f Fww khWghL
(Foe i j f S f F)
ta℘ww℘y l ak k℘F j℘
ghj℘gG)
j f Fwwk ghj℘gG
(m dwg℘j j k rhk f f℘d℘ ghj℘gG)
cjhd d
mghd d
ghj℘gG
khejk Vwgl y
khejk njhlheJ e℘i y j j y
g℘uh z d› mghd d› t℘ahd d›
cjhd d
rkhd d - ghj℘gG
l ak j d d s t℘y k℘F j y
mf l i lg gww℘a l aKk
khh i gg gww℘a l aKk f z j j℘d
Fw℘F z qf i s j
NjhwWt℘f f℘dwJ.

tpsffk:

1. fhggr #lbdhy VwgLk KfFww NtWghL

czthjp nray> Kawrp> mf> Gw fhuzqfspdhy VwgLk Rffpy RNuhzpj Njhlqfshy> tpeJTld clnryYk gpuhzd> ntspapypUeJ fhfFk mghdd> fUit tshfFk cjhdd Mfpa thAffs ghjpggileJ moy Fwwk kpFjpgglL. fhggr#L VwgLfpdwJ.

,tthW kpFjpggll moyhdJ> fgjjpd ,Uggplkhd khhigg gwwp lajij tshrrpAwr nraJ fzjjpd FwpFzqfisj NjhwWtpffpdwJ.

2. khejk ⟶ fzk KfFww NtWghL

jhapd czthjp nrayfspy khWghL VwglL> mjjhia mzb thOk FoeijfSfF KfFwwk khWglL> tapwwpy lak kpFeJ fpNyjfk ghjpggilfpdwJ. gpddh moy Fwwk ghjpgG mileJ mdwgpjjk> rkhffpdp ,it jddstpy Fiwtjhy tapwwpy lak kpFeJ grpapdik> czT czz ,ayhik> nrhpahik Mfpait VwgLfpdwJ. ,jdhy cjhdd> mghdd ,it ghjpggileJ kej epiy VwglL khejk VwgLfpdwJ. khejk njhlheJ epiyjjhy jfFwwjjpd ghjpgG thAitg gwwp mOjjp gpuhzd> mghdd> tpahdd> cjhdd> rkhdd Mfpa thAffs ghjpggileJ fgkhdJ mjd ,Uggplkhd khhgpy tshrrpAwW> thAtpd ,awifNahlljijj jLffpwJ. ,tthW mflilg gwwpa laKk> khhig gwwpa laKk jd mstpy tshrrpAwW fzjjpd FwpFzqfs NjhdWfpdwJ.

#yp f f z k - rp j j kU j J t FwpgG f s

#yp f f z f FwpF z k

c z lhQ #yp f f z qNf sha
cww R t hr Nk n y Okgp j
j z lh , Uk y kp f c z lhk
j d i k neQR t hak l Lk
njh z i l ehT Nk t eJ
NrhUk nghUkp tapWgGk
t z lhh K i yaq FbahJ
t i faha K f Kk ehWk d Nw.

- ghy t h f l k

nghUs :

- Nk y %r R z lhj y›
- , Uk y mj p f k VwgL j y›
- neQR› t ha› njh z i l› ehf F n t eJ G z z hj y›
- tapwWg nghUk y c z lhj y›
- Foe i j jhagghy c z z hJ K f j j p y ehwwkb f Fk

gp s i sg gp z p kU j J t k - II

#yp f f z k (fhgg f z k) - Fwp F z k

neQR t ha njh z i l ehT
NeUw n t eJ G z z ha
JQr y j d K i yA z z hJ
R t hrNk bUk Y z lhk
jQrkha tapW nghUkp j
jhaK i y A z n z hl lhJ
fQr i y K f Kk ehWk
f z #yp f f z kp jhNk.

(i f.gp.98-173)

nghUs :

- Rthrk mjpfkhf vOkGjy›
- ,Uky mjpfkhf cz lhjy›
- neQRk thAk kpfTk Fspehejpujjy›
- njhz il› ehfF› nteJ Nrhhtiljy›
- nghUky VwglL tapW cggpf nfhssy›
- Foeij jhaggh iy cz zhik›Kfk kpfTk ehwwkbjjy

KfFww ,ay

rpjj itjjpa mbggil jjJtjjpdgb cly ,aqFtjwFhpa capHjhJffs thjk› gpjjk› fgk vdf $wggLk. ,k%dW rfjpfSk jk mstpy nrttNd nraygLk NghJ cly jhJffs Nehapdwp ,aqFfpdwd. ,it jk epiykhwp nraygLkNghJ clypy Neha cz lhf fhuz khfpdwd.

thjk:

thjk thOkplk :

tspahdJ mghdd› kyk› ,lfiy› cejpapd fo %yk fhkfnfhb› ,LgG› vYkG› Njhy› eukGf $llk› fyfs› kaphffhy› Cd vdDk ,lqfspy thotjhFk.

tspapd ,awifggzG

xOqFld jhNjo %r Nrhqfp ,aqf

vOrrpngw vggzpAkhww vOejphpa

Ntfk GydfSfF Nktr RWRWgG

thfspfFk khejhfF

thA ,awif epiyapy epdW CffKzlhffy› %rRtply› thqfy› kdnkhopnkafSfF nraiyjjuy› kyk Kjypagjpdhdf tpiuTfis ntspggLjjy› VO clwflLfs kwWk lknghwpfSfF tdik nfhLjjy Mfpa nrayfisg GhpAk.

, **/** J xdwhapUggpDk jd ,lk› njhopy Kjypatwwhy gjJ tifggLk.

thjk	nray	#yf z jjy fh z ggLk eiy
guh z d	%rRtly› thqfy c z i t nrhjjy.	ghjgG (%rRtly› thqfyy rukk)
mghd d	kyryjij jsSk m d d rhujij Nrhggf F k.	ghjgG (kyrrffy› c l y t d i k F i wjy)
tahd d	cWgGf i s e l l k l f f nraAk› c l y rhujij eugg jJ c l i y fhfFk.	ghjgG (c l y F dWjy)
rkhd d	kww thAf f i s kQr n t h l l hky k l f f r rhggL j Jk.	ghjgG (gw thAf f i s f l LggL j J t jy rukk)
c jhd d	NkyNehf F q fhy v dggLk NgrRf F K jwfhu z k Kawr› kNdhjlk c z lhfFk.	ghjgG (,Uky› thej› Nky%rR› Ngrnrhy F iwjy› c l wNrhhT)
ehf d	v y y h f i y f i sAk fwFkgb nraAk› f z ,ikfFkgb nraAk› eyy g z Gf i s ghL tfFk.	ghjgG (gbjjy› tisahly Nghdw nrayf i s nraa rukk)
$hk d	n f h l l h t tlggz Z k› f z jwf f › %lnraAk› f z z h togg z Z k.	,ayG
fUfud	eh twfrT› ehraw frT› Jkky› ,Uky› gria c z lhfFk.	ghjgG (thay Nfhio E i ujy› ,Uky› %fFeh ghajy› gradik)
Nj t j j j d	Nrhkgy› Nfhgk› J}qf vOkNghJ mahrr c z lhFk.	ghjgG (ry Nt i s kFej m r j fh z y)
j d Qnra d	,weJ tbd fhwnwyyhk n t s ggl l gd d h %dwhtJ ehsy j i y n t bjj gd jhd NghFk.	-

gpjjk:

gpjjk thOkplk:

gpqfiy› gpuhz thA› ehgig› %yhffpdp› ,Ujak› jiy› nfhgGo› cejp› ,iugig› tpahit› ehtpY}Wfpdw eh› nreeh› rhuk› fz› Njhy ,ttplqfspy thOk.

moypd ,awifggzG:

grpjhfk Xqnfhspfz ghhitgz ljJ

Urpnjhp rjjp ntkiktuk - crpj

kjp$hjj Gjjptdggspjjf fhfFk

mjpfhhp ahqfh doy

moyhdJ› jd ,awif epiyapy epdW nrhpggpjjy› ntkik› ghhit› grp› ehNtlil› Rit› xsp› epidgG› mwpT› tdik› nkdik vdgit czlhfFk.

gpjjk	**nray**	**#ypfzjjpy fhzggLk epiy**
mdwgpjjk	ehtbTss nghUsfis tws nraAk› czit nrhpfFk.	ghjpgG (grpapdik nrhpahik)
,uQrfgpjjk	nreeiukpFjpggLjJk	rpyNtis ghjpgG (ghzL)
rhjfggpjjk	mwpT› Gjjpiaf nfhzL› tpUggkhd njhopiy epiwNtwWk.	ghjpgG (mdwhl Ntiyfis nratjpy rpukk)
gpuhrfk	NjhYfF xspia nfhLffpwJ.	rpyNtis ghjpgG (Njhypy mhpgG)
MNyhrfk	fzfspy thoeJ tbtjij mwpar nraAk.	,ayG.

fgk:

lak thOkplk:

rkhd thA› Roplk i d› tpeJ› j i y› M f fpi d› ehf F› c z z hf F› nfhOgG› k r i r› FUjp %f F› khhG› eukG› vYkG› %i s› ngUqF l y› f z› f y f s ,i t lak thOkplk.

lajjpd ,awi f g g z G:

jplkA nkdgpi z gGj jp z i kAww ahgGk

mlNyh tOtOgGk M f i f f - fplhf F

ntUthg nghWikAk Nkyhd fhgghk

ngUikjjh ikankdg NgR.

fgkhdJ typT› vdG %lLfSfF tdik› Mwwy› tOtOjjdik› clYfFj Jdgk NeUqfhy mQrhky nghWjJf nfhssy Mfpa ngUikia cilaJ.

fgk	**nray**	**#ypf z jjpy fh z ggLk epiy**
mtykgfk	E iuauypy ,UeJ kww ehdF laqflL gwWf Nfhlha ,UfFk.	ghjpgG (%rR tpl rpukk)
fpNyjfk	,iugigapy ,UeJ c z T eh Kjypatwiw <uggL jjp nrhpggpfFk.	ghjpgG (nrhpahik)
Nghjfk	ehtpdpdW Ritia mwptpfFk.	rpyNtis ghjpgG (Ruk)
jwgfk	jiyapdpdW ,U f z flFk Fspharrpiaj jUk.	rpyNtis ghjpgG (f z rptjjy)
rejpfk	fyfis xdNwhnlhdW nghUjjpj jsunraAk.	,ayG

clwflLfs

rhuk :	cliyAk kdijAk CffKwr nrajy #yf zjjy rhuk ghjggiltjhy clwNrhhT› cly Fdwp fhzggly Mfpaitcss J.
nreeh :	mwpT› tdik. xyp nrUfF› xsp ,itfis epiyffr nratJ. Rof zjjy rpy Nehapdhflf ntSgG cssjhy nreeh ghjpffggLfpwJ.
Cd	clypd cUtjij mjd njhopwfp zqf mikjjYk vdig tshjjYkhFk. ,J Rof zjjpy ngUkghYk ghjpggiltjpyiy rpy Ntis ezlehlfshf Neha epiy fhzgglhy Cd FiweJ cly Fdwp fhZk.
nfhOgG	xtnthU cWgGk jjjk nraiy ,awWk NghJ fbdkpdwp ,aqf mtwwpwF neagGggir Clb cjtpGhpfpwJ. ezlehlfshf Nehaepiy fhzgglhy ghjpgG.
vdG	cliy xOqFgl epWjjp itjjy› nkdikahd cWgGfisg ghJfhjjy› cly mirtpwF mbggilaha ,Ujjy Mfpa nrayfis nraAk ,J Rof zjjpy ,ayghfNt cssJ.
%is	vdGfFs epiweJ mitfSfF tdikAk nkdikAk jUtJ. ,J Rof zjjpy ghjpgG miltjpyiy.
ntz zh RNuh zpjk	jdidnahjj cUtgngUffpwF ,lkhfpa fUjNjhwwjjpwF Kjyha epwgJ.

,ej vO clwwhJffSk jjjk ,awifg gz NghL ,Uejhy dwp mitfs nraAk njhopy edF eilngwhJ.

gUtfhyqfs :

1. fhhfhyk : Mtz› Gullhr› (August & September)
2. $jhfhyk : Iggr› fhhjj›if (October & November)
3. Kdgd›ffhyk : khhfo› ij (December & January)
4. g›dgd›fhyk : khr› gqFd› (February & March)
5. ,sNtd›yfhyk : r›jj›iu› itfhr› (April & May)
6. KJNtd›yfhyk : Md› Mb (June & July)

ts› Kjy›a Fwwqfs› jdd›iy tshrr› NtwWe›iy tshrr› jdd›iyailAk fhyk

KfFwwk	jdd›iy tshrr›	NtwWe›iy tshrr›	jdd›iy milJy
thjk	KJNtd›y	fhhfhyk	$jhfhyk
g›jjk	fhhfhyk	$jhfhyk	Kdgd›fhyk
fgk	g›dgd›ffhyk	,sNtd›y	KJNtd›y

#y›fzjj›y Kjy›y g›jjNjhlk ghj›ggileJ jdd›iy tshrr› mileJ g›ddh ts›Fwwk NtwWe›iy tshrr› mileJ mjdg›d fgkhdJ jdd›iy tshrr› mileJ #y›fzjj›d Fw›Fzqfis NjhwWt›ff›dwJ.

g›jjk jdd›iy tshrr› milAk fhyk - fhhfhyk
thjk NtwWe›iy tshrr› milAk fhyk - fhhfhyk
fgk jddiy tshrr› milAk fhyk - g›dgd›ffhyk

vdNt fhhfhyk Kjy g›dgd›ffhyk› tiuAss fhyk Ro›fzk NjhdWtjwFh›a fhyqfshFk (August & February).

Itif epyqfs:

Itif epyqfisg gwwp njhpeJ nfhstjpd %yk ,ddpdd epyqfspy trpff ,ddpdd Nehafs czlhFk myyJ eqFk vdgijAk› clYfF edik myyJ jikgafFk epyjJ ehfs gwwpAk kUeJfis rhggpLtjwF kwWk nratjwF rpwgGila epyk gwwpAk mwpayhk.

Iejpidf Fzk:

1.	FwpQrp (kiy rhhej epyk)	,J NehafSfF ,Uggplk› ,eepyjjpy tpisAk nghUsfSfF tdik czlhFk. ,ujjk cwpQRk Ruk› tapwwpy Mikfflb czlhFk. rpNylLkk jqFk.
2.	Kyiy (fhL rhhej ,lk)	tyiy Neha› thj Neha czlhFk
3.	kUjk (tay rhhej ,lk)	,eepyjjpy tpisAk mWRitg nghUsfis czlhy thjk Kjypa KjNjhl Nehafis xopfFk
4.	neajy (fly rhhej ,lk)	nfhLikahd thj Neha czlhFk. nkypej cliyggUffrnraAk. <uiyg ngUfFk› FlythAit czlhfFk.
5.	ghiy (kzy rhhej ,lk)	thjk› gpjjk› fgk ,twwhy tpisfpdw gpzpflF ,Uggplk

‘g z awK i w i k” - v z t i f j NjhT

‘g z aw K i w i k” vdgJ c l i yg g z j j yha Nehi aj njheJnfhs S fw xOf f k vdggLk.

t j Ak xOf fKk :

, J

1. nghwahwNwhj y
2. Gy dhywj y
3. t dhj y

vdDk t j f isAk mtwiwj J i z ahfg gww xOFk xOf fqf isAk Fwf Fk. # y f z j j y› Nehahsf F fhZ k Fw F z qf s :

1. nghwahy mwj y :
   1. %f F - %f F eh ghaj y
   2. eh - Nfhi o tbj y
   3. f z - r yNt i s f z r t j j y
   4. Njhy - r yNt i s mh g› j bgG fh z y
   5. nr t - r yNt i s fhj y ro t bj y
2. Gy dhy mwj y :
   1. ehwwk - %f f y rs r t T j bgGWj y fhu z khf r y Nt i s ehwwkwa , ayhi k
   2. R i t - , d g› r yNt i s Ruk , Uejhy i fgG
   3. x s - , ayG
   4. CW - n t ggk
   5. X i r - , ayG

t dhj y :

t dhj y vdgJ Nf l lwj y kUj J t d j d i d Nehf f tej g z Awwt i dggww mwa Nt z batwiw mweJk. j d nghw Gy dfshy g z ahs D i la nghw› Gy d to aha c z ht i j g z Awwt d l j j Nyh myyJ m th ngwNwhh Rwwj jhiuf nfh z Nlh› mt dJ ngah› taJ› j i z › FLkg tuyhW› c z T gof f t of fk›

Keija Nehapd tuyhW› xtthik tuyhW Nghdwtwiw mwpjiyg gwwpaJ MFk.

vztifj NjhTfs :

gpzpia mwpAk top› kUjJt E}y tyNyhhfshy vz tifaha tFffgglLssJ.

‘ehbgghprk ehepwk nkhoptpop

kyk %jjpukpit kUjJtuhAjk”

vztifj NjhTfshtd

eh

epwk

nkhop

tpop

kyk

%jjpuk

]ghprk

ehb

#ypfzjjpy - vztifj NjhTfspd epiy

eh :

,jpy RuffFk vrrpy. epwk› thapd topaha ntspggLk Nfhioapd epwk› fdk› Ngrrpd jdik ,twiwftdpff Ntz Lk.

#ypfzjjpy - Nfhio kQrs myyJ grir kQrs epwjjpy fhzggLk.

Ngrrpd jdik jhoej Fuy xypAld fhzggLk.

epwk :

- Njhy› cjL› gy› efk» eh ,twwpd epwk ftdpffggl Ntz Lk.
- #ypfzjjpy rpyNtis Njhy› fz› eh› efk ,itntSjJ fhzggLk.

nkhop :

- thj Nehahspf F rkxypAk

- gpjj Nehahspf F cahej xypAk
- Ia Nehahspf F ,ddpir Nghdw<djnjhdpAk ,Uf Fk
- #ypfzjjpy %rRtpl rpukk csjhy Ngrnrhyp Fdwp Ak› Fuy xyp jhoeJk ,Uf Fk.

tpop :

- ,jpy fhZk epwk› xsp rhWkgis› topAk eh ,twiw ftdpff Ntz Lk.
- #ypfzjjpy rpyNtis fz rptjjy kwWk fz mhpgG fhzggLk

kyk :

- ,jd epwk› Eiu› ,Wfy› ,sfy ,twiw ftdpff Ntz Lk #ypfzjjpy rpyNtis kyfflL fhzggLk.

%jjpuk :

- ,jd epwk› vil› kzk› Eiu› vQry ,twiw ftdpff Ntz Lk.
- #ypfzjjpy %jjpukhdJ ntzik fyej kQrs epwjJlDk EiuAlDk fhzggLk.

]ghprk :

- thj Nehahspf F cly rpwpJ ntggkha ,Uf Fk.
- gpjj gpzpahshf F cly kpF ntggkhapUf Fk.
- Ia Nehapdhf F cly jlgkhapUf Fk. mdwpAk tpahit tpLtJkhapUf Fk.
- #ypfzjjpy rpyNtis Ruk ,Uejhy kpF ntggkhf Tk› gpw Neuqfspy jlgkhf Tk tpahit tpLtJkhapUf Fk.

ehb :

cejpjidggwwp auysTk Gz zha
xUffhNy Rthrejh Dzlhkpff
tejRuk Grpdhw NghyNt fhaeJ
tUjjkhaj jplL Kllha kaffq fhZk
,ej tiffzffharr nydNwehSk
,akGthhGtpkJ E}ytyNyhhfs
- ghythflk

cejpjidggwwp-gpjjkhdJ tapwiwg gwwp

<uysTk Gz zha-khhT gFjpiaghjpfFk

,eNeha ngUkghYk khej Nehapd njhlhrrpahf tUfpdwJ. khej Nehapy gpujhdkhf ghjpffggLk cWgG tapW› gpjjjjpd ,Uggplk MFk. gpjjk jd ,aygpypUeJ khWgglL NtwWepiy tshrrp mileJ fgjjpidAk fgjjpd ,Uggplkhd khhigAk ghjpjJ lakhdJ %rR cWgGfspd cssplqfspy miljJ nfhzL fhwiw ,awifahfr nryy nthllhkw jLjJ› Ropj J thqf nrafpwJ.

vdpDk ,fflLiuahsh KadW ghhjj tpljjpy gpjjk› fgk jddpiy tshrrpAwWk thjk NtwWepiy tshrrp mileJk› foffzl ehbeilahdJ ghpNrhjpjJ czugg llJ.

1. thj fgk
2. gpjj fgk

1. thjfg ehb :

‘ghqfhd thjjjpy NrjJk ehbg
ghprpjjhy jpkphNT Kisrr yhFk
jqfhd ,UkYld rejpNjhlk
Nrhejtplk ntb#iy ,Uj Nuhfk
thqfhj <iske jhu fhrk
typAlNd GwtrR cstrR tffk
XqfhZQ RuKlNd Rthrfhrk
czlhFk ntFNehafF KWjp jhNd”

-(rjf ehb)

2.gpjj fgehb :

‘gzghd gpjjjjpy NrjJk ehb
ghprpjjh yjjpRu kpisgG <is..”

-(rjf ehb)

ehfFwp :

‘tej eh fhpnail kzk Eiu vQrnyd
iwejpaYstit aiwFJ KiwNa”

- Neha ehly Kjy ghfk

ehpy epwk› kzk› Eiu› vil› vQry Mfpatwiw Nehff Ntz Lk.

neafFwp:

Foeijfsp ehbeil rhpahf fzpggjpy rpukk cssjhy› neafFwp ghpNrhjid %yk Nehahsh vfFwwjjhy ghjpffgglLsshh vdgjid fzpffyhk.

fz Nehahspapd rpWeiu Nrhjid tlbypy Cwwp› #hpa xsp kpFej ,ljjpy ehpd miyapyyhjNghJ eynyznzajJsp tplL ghhffgglIJ.

rpyhpy MopNghy (Nkhjpuk) gutpAk

rpyhpy KjJNghy epdWk fhzgglIJ.

NtW rpyhpy muntdezLk fhzgglIJ.

‘muntdezbd thjk

MopNghw gutpd gpjjk

KjnjhjJ epwfpd nkhoptnjd fgNk”

kUjJt topKiwfs:

1. NtwWepiy tshrrpailej gpjjjjpid jddpiyggLjj Ntz Lk.
2. jddpiy tshrrpailej lajjpid rkggLjj Ntz Lk.
3. gpjjf Fwwjjhy ghjpggileJss thjjjpidAk rhpggLjj Ntz Lk.
4. tdik ,oej clwflLfis tdik milar nraAk

REVIEW OF MODERN LITERATURE

ANATOMY OF RESPIRATORY TRACT

In humans, the respiratory tract is the part of the anatomy involved with the process of respiration. The respiratory tract is divided into the upper airways and lower airways. The upper airways or upper respiratory tract includes the nose and nasal passages, paranasal sinuses, the pharynx, and the portion of the larynx above the vocal cords. The lower airways or lower respiratory tract includes the portion of the larynx below the vocal cords, trachea, bronchi andbronchioles. The lungs can be included in the lower respiratory tract or as separate entity and include the respiratory bronchioles, alveolar ducts, alveolar sacs, and alveoli.

RESPIRATORY TRACT

Upper respiratory tract	Lower respiratory tract
• Nose	• Larynx below vocal cords
• Nasal passages	• Trachea
• Paranasal sinuses	• Bronchi
• Pharynx	• Bronchioles
• Larynx above the vocal cords	• Lungs

The Upper Respiratory Tract

The upper respiratory tract, can refer to the parts of the respiratory system lying above thesternal angle (outside of the thorax), above the glottis (vocal cords), or above the cricoid cartilage. The larynx is sometimes included in both the upper and lower airways.The larynx is also called the voice box and has the associated cartilage that produces sound. The tract consists of the nasal cavity and paranasal sinuses, the pharynx (nasopharynx,oropharynx and laryngopharynx) and sometimes includes the larynx.

The Lower Respiratory Tract

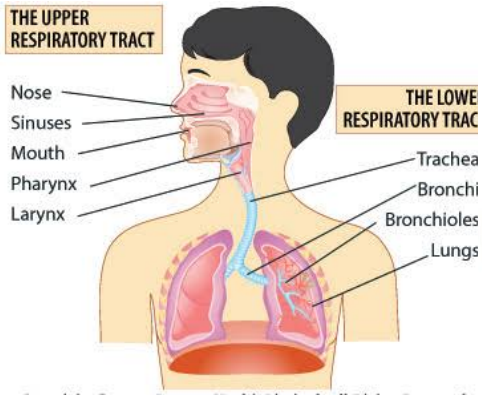
The lower respiratory tract or lower airway is derived from the developing foregut and consists of the trachea, bronchi (primary, secondary and tertiary), bronchioles (including terminal and respiratory), and lungs (including alveoli). It also sometimes includes the larynx.

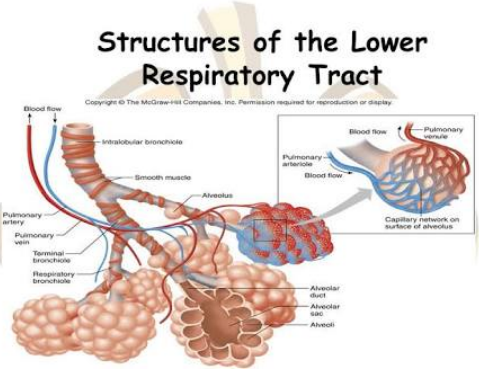
Respiratory Tree

The respiratory tree or tracheobronchial tree is a term also used to refer to the branching structure of airways supplying air to the lungs and includes the trachea, bronchi and bronchioles.

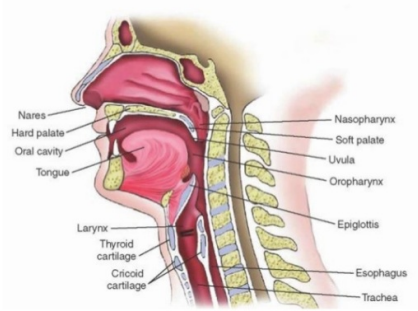
The trachea is the largest tube in the respiratory tract and consists of tracheal rings of hyaline cartilage. It branches off into two bronchial tubes, a left and a right main bronchus. The bronchi branch off into smaller sections inside the lungs, called bronchioles. These bronchioles give rise to the air sacs in the lungs called the alveoli.

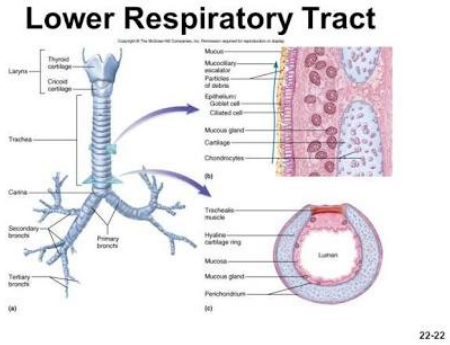
The lungs are the largest organs in the lower respiratory tract. The lungs are suspended within the pleural cavity of the thorax. The pleurae are two thin membranes, one cell layer thick, which surrounds the lungs. The inner (visceral pleura) covers the lungs and the outer (parietal pleura) lines the inner surface of the chest wall. This membrane secretes a small amount of fluid, allowing the lungs to move freely within the pleural cavity while expanding and contracting during breathing.

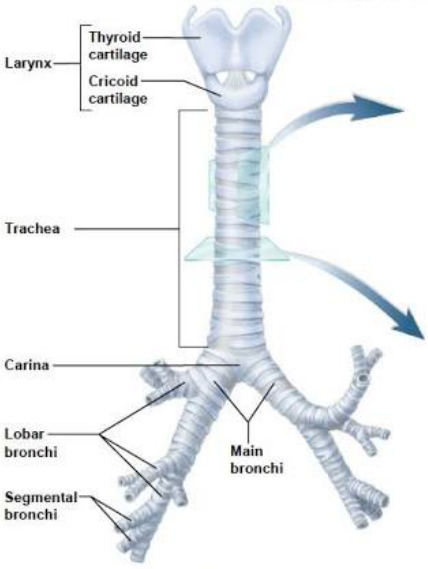


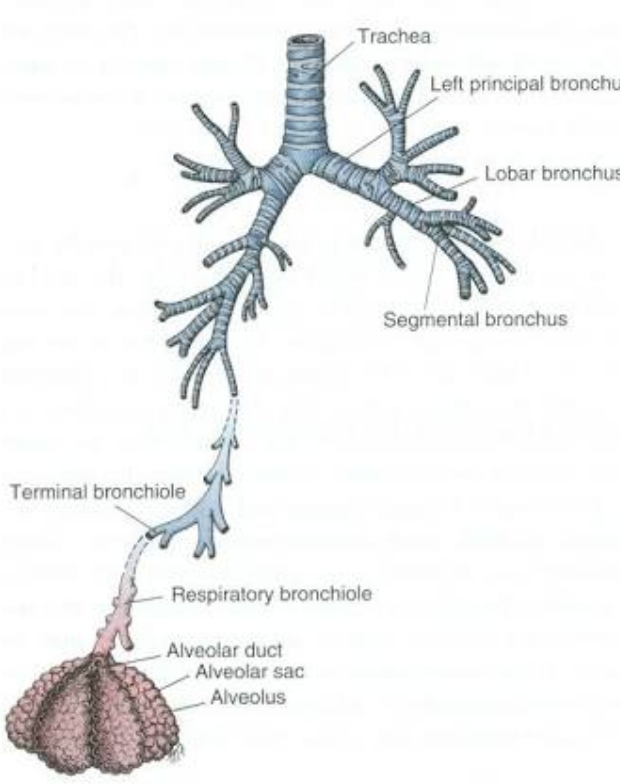


UPPER RESPIRATORY TRACT









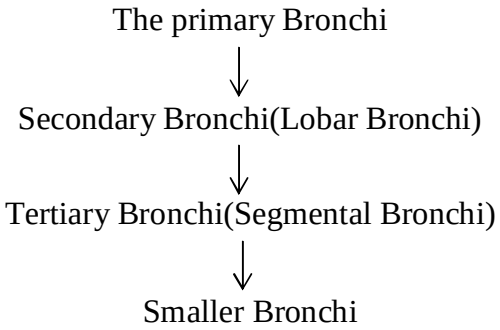
The lungs are divided into different lobes. The right lung is larger in size than the left, because of the heart is being situated to the left of the midline. The right lung has three lobes - upper, middle, and lower (or superior, middle and inferior), and the left lung has two -upper and lower (or superior and inferior), and a small tongue-shaped portion of the upper lobe known as the lingula.

Each lobe is further divided up into segments called bronchopulmonary segments. Each lung has a costal surface, which is adjacent to the ribcage; a diaphragmatic surface, which faces downward toward the diaphragm; and a mediastinal surface, which faces toward the center of the chest, and lies against the heart, great vessels, and the carina where the two mainstem bronchi branch off from the base of the trachea.

Bronchi

A bronchus, also known as a main or primary bronchus, is an airway in the respiratory tract that conducts air into the lungs. There is a right bronchus and a left bronchus and these bronchi branch into smaller secondary and tertiary bronchi which branch into smaller tubes, known as bronchioles.

The primary bronchi. The right and left primary branches are formed by the division of the trachea at the level of T4 vertebra just behind the sternal angle. The right bronchus is wider, shorter and more vertical than the left so right bronchus is the more common sites for an inhaled foreign object to become lodged.



Each tertiary bronchus conduct, air to and form a bronchopulmonary segment.

All conducting and respiratory passage ways distal to the primary bronchi are found with in the lungs.

Bronchioles

The bronchioles or bronchioli are the passageways by which air passes through the nose or mouth to the alveoli (air sacs) of the lungs, in which branches no longer contain cartilage or glands in their submucosa. They are branches of the bronchi, and are part of the conducting zone of the respiratory system. The bronchioles divide further into smaller terminal bronchioles which are still in the conducting zone and these then divide into the smaller respiratory bronchioles which mark the beginning of the respiratory region.

The primary bronchi, in each lung, which are the left and right bronchus, give rise tosecondary bronchi. These in turn give rise to tertiary bronchi (tertiary meaning third). The tertiary bronchi subdivide into the bronchioles.

Terminal bronchioles

The terminal bronchiole is the most distal segment of the conducting zone. It branches off the lesser bronchioles. Each of the terminal bronchioles divides to form respiratory bronchioles which contain a small number of alveoli.

Respiratory bronchioles

The respiratory bronchioles are the narrowest airways of the lungs, one fiftieth of an inch across.The bronchi divide many times before evolving into the bronchioles. The bronchioles deliver air to the exchange surfaces of the lungs.They are interrupted by alveoli which are thin walled evaginations. Alveolar ducts are distal continuations of the respiratory bronchioles.

Peculiarities of respiratory tract in children

- Chest wall is thin, elastic, yielding and intrinsic muscles are weak
- Short thorax with the ribs running more horizontally
- Increase in Antero posterior diameter of the chest with limited inspiration
- Epiglottis is longer and projects back wards at a greater degree than in older children.

All these peculiarities tend to increase the risk of permanent deformity in the chest wall in the presence of recurrent or long standing respiratory distress. By above 8 years the chest assumes conical shape since the antero posterior diameter is less than transverse diameter and the ribs are placed in a slightly downward direction.

CHILDHOOD ASTHMA

Definition:

Asthma is a non- Communicable chronic lung disease, characterized by

- Airway inflammation.
- Airway obstruction mainly due to muscle spasm, associated with muscosal edema and stagnation of the mucus.
- Airway hyper reactivity to macrobiologicals and irritants
- Airway remodeling in uncontrolled asthma.

Etiopathogenesis:

The etiological factors can be classified as biological and irritants.

Aero Biologicals	Irritants
Dust mites	Tobacco smoke
Cockroaches	Cooking fuel smoke
Pollens	Mosquito coil smoke
Fungi	Sprays
Pets- Saliva, urine	Perfumes
Viral infections	
Food	

Genetic Predisposition:

Genetic factors play a contributing role in the Pathogenesis of asthma. Molecular genetic linkage studies indicate that the ‘ Atopic’ gene locus is on chromosome 11 and the genes for cytokines that are important components in the pathogenesis of asthma are encoded in chromosome 5. The alleric cytokines are IL 3,4,5,9,13 and granulocyte macrophage colony stimulating factor. All these are linked to inheritance of an increased IgE response and increased bronchial hyper responsiveness.

Increased prevalence of asthma is noticed in

- Urban children
- Rapid urbanization increasing prevalence in the semirural areas compared to rural

- Children attending schools in heavy traffic areas especially from lower socio economic population.
- Children living in poorly ventilated homes and single room dwelling huts.
- Children living in houses with tobacco smoking persons.
- Children living in houses where cow dung cakes, agricultural waste and firewood are used as cooking fuel.
- During Diwali and similar festivals (by 100%) due to increase in SO 2.
- Children in the age group of less than 5 years 75%
- Above 5 Years of age 25%

Viral infections

- The precipitating factor for an asthma attack is 40%
- The incidence varies from 29% to 54% in both atopic and non-atopic individuals.
- Respiratory syncytial virus and rhinoviruses are the predominant viruses triggering asthma.

Patho physiology:

The main features of asthma are

- Airway Obstruction
- Airway inflammation and hyper responsiveness

Airway obstruction in asthma is caused by

- Edema and inflammation of mucous memebrane lining the airways.
- Excessive secretion of mucus, inflammatory cells and cellular debris.
- Spasm of smooth muscles of bronchi

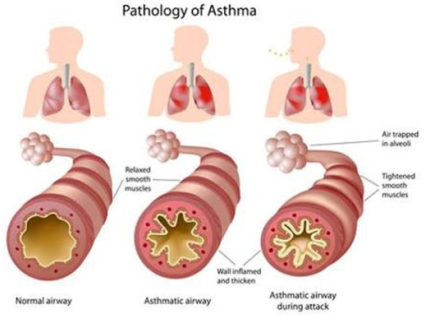
Inhalation of allergen leads to two distinct phases

- Early phase
- Late phase

❖ **Early phase : (15-30min)**

Re-exposure to antigen causes Cross linking of these bound lgE molecules by allergen which leads to degranulation of mast cells and


ALLERGIC REACTIONS
Skin Contact
Injection
Ingestion
Inhalation
poison plants
animal dander
pollen
latex
bee sting
medication
medication
nuts & shellfish
pollen
dust
mold & mildew
animal dander
FitnessEgypt.blogspot.com
ADAM


Pathology of Asthma
Air trapped in alveoli
Relaxed smooth muscles
Tightened smooth muscles
Wall inflamed and thicken
Normal airway
Asthmatic airway
Asthmatic airway during attack


Issues in Pediatric Asthma
Underdiagnosed Misdiagnosed
Acceptance of Asthma diagnosis/label
Heterogenous Disease/varying phenotypes
Cough or Wheeze
Poor patient/ parent education
Lack of knowledge & time vs. more patients
Oral vs. Inhaled
Choice of right device
Heavy nebulisation
Fear of steroids

release of mediators (Histamine, Leukotreins,prostaglandins, Platelet activating factor, Bradykinin)

Effect of early Phase:

Again there is release of mediators. This phase presents as clinical asthma.

- Histamine causes itching, sneezing, and broncho constriction.
- Prostaglandin causes vasodilatation and capsular permeability predisposing to nasal congestion.
- Leukotriens are potent broncho constrictors.

Bronchial hyper responsiveness and asthma:

Bronchial hyper responsiveness is attributed to one or more of the following abnormalities.

- Defect in the airway
- Abnormal neural control of airways
- Bronchial inflammation

CLASSIFICATION OF ASTHMA

Extrinsic asthma (atopic):

Nearly 90% of childhood asthma is extrinsic asthma which is allergic asthma. It is often associated with a personal and /or family history of allergic diseases such as rhinitis, urticaria and eczema. Poistive wheal and flare skin rections to intradermal injections of extracts of antigens and increased levels of IgE in serum.

Intrinsic asthma (non – atopic):

A Significant segment of asthmatic population will present with negative family or personal history of allergy, negative skin test. They have normal serum levels of IgE. Therefore cannot be classified on the basis of defined immunologic mechanisms,

Many of these will develop a typical symptom complex upon contracting an upper respiratory illness,after several days the patient begins to develop paroxysms of wheezing and dyspnoea that can last for days to months.

Asthma – three phenotypes

- Transient Wheezer-onset <3yrs-then resolving
- Persistent wheezer -<3yrs and persisting
- Late onset-onset of wheeze between 3-6 yrs

CLINICAL MANIFESTATIONS:

Cardinal sign:

The presences of usually diffuse, polyphonic, bilateral and particularly expiratory wheeze is the cardinal sign of Asthma.

Most Common symptoms:

- Intermittent dry cough
- Expiratory wheeze
- Shortness of breath
- Chest tightness
- Intermittent non-focal chest pain
- Nocturnal cough
- Dyspnoea
- Limitation of daily physical activity
- General fatigue

Associated symptoms:

- Allergic rhinitis
- Sneezing
- Itching
- Nasal Congestion
- Gastro esophageal reflux

Symptoms of severe persistent asthma:

Acute severe attacks on asthma represent the progression of an attack of broncho spasm to the point where the patient is breathless at rest and has the singns of cardiac stress. They may be extremely sudden onset, but more commonly build up over several hours or days.

The following are the symptoms of severe persistent asthma:

- Increasing breathlessness
- Dificulty in talking
- Anxiety to the stage of panic
- Feeble Breath sounds
- Absence of Wheeze (Silent chest)
- Profuse sweating, Restless ness
- Fatigue
- Respiratory distress
- Cardiac arrhythmias
- Pulsusparadoxus
- Cyanosis
- Visible overinflated chest (Barrel shaped)
- Difficulty in feeding
- Inability to talk in words or sentences

Diagnosis

The diagnosis of asthma is a clinical one. Hence detailed clinical history taking, physical examination and additional informations regarding family history of Atopy,allergic exposures, circadian variations and seasonal exacerbations should be carefully considered.

Recent Advances

- Recognition of unified airway disease.
- Recognition of chronic inflammatory disease concept
- Appreciating the asthma phenotypes based on inflammatory cells involved and mediators released by eosinophils,

neturophils, T- lymphocytes and vascular and endothelial cells.

- The importance of environment control.

Asthma, genomics & family helath histories.

It has been predicted that genomics will " revolutionize" public health as we know it today.

Gene Expression & the Environment

It is generally understood that a complex relationship exists between gene expressions and environmental interactions in respiratory diseases.

Goals of Genomics

Genetic linkages in studies that range from replicating one gene at a time to complex multi- variant studies conclude that over 25 asthma or allergy susceptible loci have been identified.

Goals of these studies

1) Indetify Susceptible individuals.
2) Intervence before the oneset of disease.
3) Design drugs that are genospecific

The genotype effects at these loci were modified by the environment such that the same genotype was associated with protection from or risk for a phenotype depending upon an early life exposure.

Goals of childhood asthma management

- Maintain normal activity
- Regular school attendance
- Full participation in sports activities
- Good Sleep
- Prevent chronic asthma symptoms
- Keep away acute exacerbations
- Maintain normal lung function
- No/little adverse effect of drugs

Management

The management of asthma includes

- Education
- Environment control
- Pharmacotherapy
- Regular follow –up

The goal of long term asthma care is to keep the child subjectively and objectively healthy.

A CORRELATIVE STUDY OF ETIOPATHOGENESIS AND SYMPTOMS OF SOOLI KANAM WITH CHILDHOOD ASTHMA

Etiopathogenesis of kanam (f z k Njhdw fhu z qf s)

khej j i j njhlheJ f z k VwgL j y :

Foe i j f S f F khejNeha gyK i w teJ mJ KwwpYk F z k i lahky c lkgpd c s gF jpapNyNa ,UeJ Kwwp ,Uggjhy f z k c z lhFk.

- ghy thflk

‘m d d Kk ghYk neaAk
mOf pa goKe Njqfha
gpd i dAk f l i y n t yyk
ngh paNjhh f j y pg g z Lk
j pd DNkhh fhye j d d py
jnad n t JkG khf py
x dWW gps i s f F j jhd
c teJNk khej K z lhk”

- ghy thflk

Hence from the above literature evidence,it is clear that the imbalance nutrition in Mother’s diet is a major and significant cause for the development of Mantham in children.

Ingestion of certain foods like Cow’s milk, Pea nut, soya, egg and certain proteins may cause allergic reaction to the lactating mother with a rise in serum IgE. The high levels of IgE in the lactating Mother is transmitted to the child leading to atopic diease in the child. (Official journal of American Academy of Pediatrics)

Dietary influences in early life, shape the plasticity of the immune system and food sensitivity is an important factor in the development of allergy in the first 1 – 2 years of life (D.Behera, Bronchial Asthma)

Food allergy is a group of disorder in which symptoms result from immunologic response to specific food antigen in children during 1 – 3 years of life. (Nelson, Textbook of Pediatrics)

This correlates with Siddha Literature evidence that Mantham is a “Palparuva Noi” occurring during 1-3 years of life. (Balavagadam page -126)

,jid›

‘Mznlhd iwj njhlNl afy%dwh khzlsTk

jhzLNk khejNeha jhd”

vdWghythfl E}yp$wgglLcssJ.

‘jhzLNk khej Neha” vd $wggLtjhy› khej Neha njhlheJ epiyjjhy ‘fzk” VwgLk (taJ 3-12) vdgJ Gydhfpwj.

vdNt khej tiffsy xdwhd ‘Rop khejk” njhlheJ epiyjjhy mJ Kjphej ‘Ropfzk” czlhfpwJ vdTk njhpfpwJ.

fhggr#lbdhy fzk NjhdWjy

‘njhifahd fzqfs vyyhk fhggr#L”

-mNahjjpjhrhghythflk

‘Rffpyjjpy RNuhzpjq fyfFkdW

G+ejpLk tpahjp%dWk”

-jdtejphpehb

‘kpfpDk Fiwapd Neha nraA E}Nyhh

tspKjyhntz zpa%dW”

-jpUtsSth

Nkwfzl FwpgGfspd %yk fzk fUtpNyNa NjhdWk mfffhuz Neha vdgJk› Rffpy RNuhzpj FiwghLfshy fhggr#L VwgLfpdwJ vdTk mwpayhk.

Hence “Garba soodu” can be correlated with the concept of “Genetic basis of Atopic diseases”

The risk of allergic diseases in a child approaches 50% when one parent is allergic and 66% when both parent are allergic.

The genetic defects affecting one or more arms of immune system result in primary immune deficiencies and the affected child may not be able to contain the pathogen or develop immune response to prevent recurrence.

(Nelson, Text book of Pediatrics Vol-2)

PARALLEL ANALYSIS OF SYMPTIOMS OF SOOLI KANAM WITH THAT OF CHILDHOOD ASTHMA

(GENERAL SIGNS AND SYMPTOMS)

S.NO	Siddha aspects	Modern comparision
1.	Nky %rR z lhjy	Prolonged expiration and expiratory wheeze
2.	,Uky mjpfk VwgLjy	Prolonged Cough
3.	neQR› tha› njhz il› ehfF nteJ Gz zhjy	Inflammatory changes due to chronic persistent cough and breathing difficulty
4.	tapwWg nghUky cz lhjy	Abdominal bloating and discomfort due to mouth breathing. Asthma itself able to induce Gastro intestinal symptoms such as abdominal distension due to aerophagia.
5.	Foeij jhagghy cz zhJ	Nasal congestion and breathing difficulty, interferes with feeding
6.	neQRk thAk kpfTk Fsphejpujjy & Kfjjpy ehwwkbfFk	Cooling of the peripheries & halitosis form mouth.

With the perspective of bringing out an effective therapy for Sooli kanam from siddha system of medicine, the author has undergone this dissertation work with

BALAKABAHARI MATHIRAI Since this is a Literature based medicine it is effective and safe for pediatric usage.

The dosage of medicine is ½ to 1 tabelt (twice daily) and the adjuvant is honey

Physician's Duty :

Siddha Treatment is not only for complete healing but also for prevention and rejuvenation. Poet Thiruvalluvar says that the duty of Physician as follows:

'Nehaehb Neha Kjyehb mJ j z⁄fFk
thaehb thaggr nray"
'cwwhd sTk g⁄z⁄asTq fhyKq
fwwhd fUj⁄r nray"

- j⁄UfFws.

So it is essential for a physician to know the extent of the disease, its etiology, the nature of patients, severity of illness, seasons and time of occurrence and exacerbation.

Line of treatment is as follows :

1. Kaappu (prevention)
2. Neekkam (Treatment)
3. Niraivu (Restoration)

1. Kaappu : (prevention)

Prevention is the main aim of siddha system. Siddhars have described general preventive measures and special measures.

Especially in Balavagadam, special preventive measures that are said for prevention fo disease of the child starts from the time of conception in intra uterine life and also after delivery.

The Diet of pregnant wowen, Her habits, Specific medicine to be taken in each month of pregnancy, psychological conditions and surroundings influence the Prevention of disease in the expected child.

2. Neekkam : (Treatment)

The aim of treatment is as follows:

To bring the vitiated three thoshams into normal equilibrium state.

To treat the patients according to the symptoms by internal medicine – Balakabhari Mathirai

To educate the Patients about the disease using Flash cards.

To teach them simple breathing Exercises which can be followed requlary at home.

3. Niraivu : (Restoration)

Reassurance of disease recovery was given to all patients.

All the patients were advised to have a healthy lifestyle that provides a disease free life.

Anxiety and general fear about the disease was discouraged by educating the patients and their Parents.

All the patients were insisted for regular Follow up for the assessment of Prognosis which regained their confidence about disease recovery.

i. Diet :

Siddhars advise the diet regimens for patients with Kanam. They are explained below.

f i z Nehahsp f S f F M F k fwp tptuk :

‘f z L nfhs thh fwp t i f f F tptuk Nf S
f jpypAl fhahFk KUq i fg gpQR
f z L rpWf i u neyypffha jhdhFk
j f f J t i u m t iuAl gpQRkhFk
g z L nea ghy fwf z L J}j s q fha M F k
ghpthd KaYLkgpd , i wr rpahFk
nfh z L l d n t s shL n t s n s ypAk
F s j jpY s s tpuhy krwpahNk “

-k j i yNeha n jhF jp -II

tpsffk :

- thioffha
- KUq i fggpQR
- rpWf i u
- neyypffha

- J t i u
- m t i ugg QR
- J}j s q fha
- nea
- ghy
- fwf z L
- Kay , i wrr
- c LkG , i wrr
- n t s shL
- n t s n s y
- t uhy k d
- krw k d

, i t f i z Neha dhf F M Fk c z T gjhhj jq f s

ii. Pathiyam :

During the course of treatment, the patients were advised to follow certain restrictions regarding diet and physical activities.

This type of medical advice system termed as pathiyam. Importance of pathiyam is said by Theraiyar as follows,

‘gj j aj j dhNy gy D z lhF k kUeJ
gj j aq f s Ngh dhy gy d NghF k - gj j aj j y
gj j aNk n t ww j Uk g z bjhf F M j y dhy
gj j aNk c j j na dW ghh”

- Nj i uah n t z gh.

The patients with Sooli kanam were advised to avoid cool beverages, and to avoid exposure to chill weather and their specific allergens.

PREVENTION METHODS :

The patients were advised

- To findout the allergic causes and to stay away from them or tko have Protective measures to avoid them.

- To avoid contaminated food and water.
- To take highly nutritious diet to develop their immunity.
- Children who are able to under stand and follow the instructions are taught

Simple Yogasanas and preventive measures.:

Pranayama and Yogasanas strengthen the muscles of respiration and diaphragm as well as regulate repiration. Hence practising asanas is more helpful in asthmatic patients as supportive therapies.

The following asanas are helpful in asthma

Pranayama

Bhujangasanam

Chakrasanam

Machasanam

Mayurasanam

Patha hasthasanam

Arai machayendhirasanam

Trikonasanam

Savasanam

- Sirappu Maruthuvam

The following are the simple yogasanas that were taught for the Patients :

1. Pranayama
2. Naadi suddhi
3. Kapala bhati
4. Bujhangasana

Pranayama

This consists of

Poorakam (to breathe in)

Kubakam (To retain air)

Rechakam (To breathe out)

Naadi sudhi :

This is the fundamental step of Pranayama which is referred to as alternate nostril breathing.

Kapalabhathi :

The technique of kapalabhati involves short and strong forceful exhalations (Rechakam) and inhalation (Poorakam) without kumbakam. This facilitates free movement of muscles of stomach as well as those of diaphragm.

All these techniques of Pranayama have been found to increase oxygen consumption and alteration in metabolism and autonomic activities which are of therapeutic advantage**. (Shirlley telles et al., july 15 1993, yoga research paper svyasa).** Therefore the efficiency of nervous system and cardiopulmonary system is increased and has been found to relieve the symptoms of Asthma.

Bhujangasana :

This asana resembles as serpent posture with raised chest.

The benefits of Bhujangasana is it expands the chest, improves blood circulation and reduces fatigue and stress.

MATERIALS AND METHODS

SELECTION OF PATIENTS

The present study covers both male and female children of paediatric age groups. All cases were carefully and thoroughly examined before admission. Those who fulfilled the criteria of *SooliKanam* according to the clinical features in siddha and modern reviews were selected with the aid of questionnaire. The opinion of faculties of department was obtained and detailed history was recorded in the proforma of case sheet.

STUDY PARTICIPANTS

INCLUSION CRITERIA:

- **Age** : 3 – 12 years
- **Sex** : Both male and female children.
- Cough associated with Broncho-spasm.
- Wheezing.
- Tightness of chest.
- Shortness of breath.
- Mild fever.
- Abdominal bloating associated with wheezing.
- Loss of appetite.
- Patients who are willing to stay in IPD Ward for 14 days or willingto attend OP Dept.
- Children who are willing to undergo radiological investigationand give blood and urine samples for laboratory investigation.
- Patient's informant/ Parent willing to sign the informed consent stating that he/she will consciously stick to the treatment during 14days but can opt out of the trial of his / her own conscious discretion.

EXCLUSION CRITERIA:

- Children above 12 years.
- Cough with haemoptysis.
- High grade fever.
- Wheeze other than respiratory cause.
- Congenital heart disease / Cardiac asthma.
- Dyspnoea associated with cyanosis and clubbing.
- Abdominal distension due to any other serious illness.
- Sudden reduction of weight.
- Status Asthmaticus.

WITHDRAWAL CRITERIA:

- If any adverse reactions & altered symptoms occurred during the drug trial.
- Intolerance to the drug.
- Patient turned unwilling to continue in the course of clinical trial.
- Occurrence of any serious illness.

DIAGNOSIS

A case sheet was prepared on the basis of siddha and modern methodology to diagnose the disease and individual case sheet is maintained for each patient.

1.Siddha diagnosis was made with the help of following methods

Poriyalarithal

Pulanalarithal

Vinathal

Ennavagaithervugal (Including neerkuri, neikuri)

Udalthathukkal

Paruvakaalam (Season)

Thinaigal

Mukkutram

2.LAB INVESTIGATIONS

I.Blood

- TC
- Differential WBC count
  - Neutrophils
  - Lymphocytes
  - Eosinophils
  - Monocytes
  - Basophils
- Hb

II.ESR

- ½ hr& 1 hr

III.Urine

- Albumin
- Sugar
- Deposits

SPECIFIC INVESTIGATIONS

- X-RAY Chest PA View
- Peak Expiratory Flow
- Absolute Eosinophil Count
- Specific IgE
- Skin Sensitivity Test

SELECTION OF DRUGS AND ITS ADMINISTRATION

The trial drug is selected from,

AgasthiyarVaithiyaPillaitamil.

The trial medicine is *BalakabahariMathirai.*

The trial drug was prepared carefully according to the siddha literature and given to all 40 patients twice a day and the dose is adjusted according to their age.

Drug Regimen

BalakabahariMathirai,1/2 to 1 tablet with adjuvent honey twice a day after meals.

The dosage of medicine with different age group

3 to 7 years - ½ tablet

8 to 12 years - 1 tablet

DURATION OF TREATMENT

45 days

ANALYSIS OF TRIAL MEDICINE

Biochemical analysis of the trial drugwas performed in the Department of Biochemistry , Government Sidhha Medical College, Palayamkottai.

Pharmacological analysis of the trial drug was carried out at K.M.College of Pharmacy, Department of Pharmacology, Madurai.

The Antimicrobial study was done at Malar Diagnostic Centre, Tirunelveli.

CASE PROFORMA

The signs and symptoms of *Sooli*kanam, history of present and past illness, personal history, nutritional history, family history, immunization history, laboratory investigations and managements were systematically recorded in proforma.

பாலகபஹாரி மாத்திரை

DRUG REVIEW

NAME OF THE MEDICINE: BALAKABAHARI MATHIRAI

(INTERNAL)

REFERENCE BOOK – AgasthiyarVaithiyaPillaitamil

INGREDIENTS:

S.N	Name	Botanical Name	Parts used	Quantity
1	Adhimadhuram	*Glycyrrhizaglabra*	Root	5.25 gm
2	Koshtam	*Costusspeciosus*	Root	5.25 gm
3	Chukku	*Zingiberofficinale*	Rhizome	5.25 gm
4	Milagu	*Piper nigrum*	Seed	5.25 gm
5	ArisiThippili	*Piper longum*	Dried Fruit	5.25 gm
6	Lavangapattai	*Cinnamomumverum*	Bark	5.25 gm
7	LavangaPathiri	*Cinnamomumtamela*	Leaves	5.25 gm
8	Sirunagapoo	*Mesuanagassarium*	Flower	5.25 gm
9	Kadugurogini	*Picrorhizascrophulariiflora*	Root	5.25 gm
10	Sitrarathai	*Alpinia galangal*	Root	5.25 gm
11	Akkarakaram	*Anacyclus pyrethrum*	Stem	5.25 gm
12	Velichapisin	*Gardenia resinifera*	Resin	5.25 gm
13	Indhuppu	*Sodium Chloride Impura*	Salt	5.25 gm
14	ThettranVithai	*Strychnospotatorum*	Seed	5.25 gm
15	Adathodai	*Adhatodavasica*	Leaves	100 ml

METHOD OF PURIFICATION

All drugs will be purified as per classical Siddha texts.

METHOD OF PREPARATION:

Raw drugs from item 1 to 13 are cleaned, purified, shade dried, roasted in a mild flame and then Powdered. They are sieved to get microfine powder and mixed homogeneously. Thettranvithai is made into small pieces and soaked in Adathodai leaf juice for 1 night. Then all the above ingredients are grinded with Adathodai leaf juice for 9 hours and made into fine tablets each weighing about 0.6 gm (ThoothulangaiPramaanam).Finally they are stored in cool and dry place.

DRUG DOSAGE

According to age (1/2 to 1 tablet, twice daily)

DRUG ADJUVENT

Honey

INDICATION OF TRIAL MEDICINES:

Kabarohangal like *Erumal, Kuthirumal, Kanarohangal and Eelairohangal.*

1. சுக்கு

Botanical Name	:	*Zingiberofficinalae*
Family	:	*Zingiberaceae*
பயன்படும் பாகம்	:	**கிழங்கு (உலர்ந்தது)**
குணம்	:	**சுவை - கார்ப்பு, தன்மை - வெப்பம், பிரிவு - கார்ப்பு**
செய்கை	:	**வெப்பமுண்டாக்கி** -Stimulant **பசித்தீத்தூண்டி** -Stomachie **அகட்டுவாய்வகற்றி** -Carminative
பொதுகுணம்	:	**"*சூலைமந்தம் நெஞ்செரிப்பு தோடமேப் பம்மழலை மூலம் இரைப்பிருமல் மூக்குநீர் - வாலகப தோடமதி சாரந் தொடர்வாத குன்மநீர்த் தோடம்ஆ மம்போக்குச் சுக்கு* "** **செரியாமை, மார்பு எரிச்சல், இரைப்பு, இருமல், கழிச்சல், நீரேற்றம், குன்மம், வயிற்றுப்பிசம், ஐயசுரம் போம்**
Constituents	:	Analgesic, Sedative, Antipyretic
Antibacterial properties	:	Sesquiterpenoids (β - sesquipnellandrene, bisabole and farnesene) Monoterpenoid fraction (β – phelladrene, cineolcitro)

2.kiS F

Botanical Name	:	*Piper nigrum*
Family	:	Piperaceae
பயன்படும் பாகம்	:	**விதை**
குணம்	:	**சுவை - கைப்பு, கார்ப்பு, தன்மை - வெப்பம்; பிரிவு -கார்ப்பு**
செய்கை	:	**காரலுண்டாக்கி** - Acrid **அகட்டுவாய்வகற்றி** -Carminative **முறைவெப்பகற்றி** -Antiperiodic **தடிப்புண்டாக்கி** -Rubefacient **வெப்பமுண்டாக்கி** -Stimulant **வீக்கங்கரைச்சி** -Resolvent **வாதமடக்கி** -Antivatha **நச்சரி** -Antidote
பொதுகுணம்	:	***"தீயாக எங்கும் திரியுமதை யாவத்து மோயாம லெப்படியு முண்டாக்காற் - பாயாது*** **வளி, தீ, கபக்குற்றங்கள் இவை அனைத்தயும் நீக்கும். அன்றியும் திமிர்வாதம், கழலை, வளி, சளி இவைகளையும் அகற்றும்** **(தேரன் வெண்பா)**
Constituents	:	Piperine , Alkamides, Piptigrine, Wisanine, Dipiperamide, 50 – 60 % inhibitory activity on Acrtylcholinesterase

3. mh;r;j j;ggy;

Botanical Name	:	*Piper longum*
Family	:	Piperaceae
பயன்படும் பாகம்	:	**பழம்**
குணம்	:	**சுவை -இனிப்பு; தன்மை - தட்பம் ; பிரிவு - இனிப்பு**
செய்கை	:	**வெப்பமுண்டாக்கி -** Stimulant **அகட்டுவாயுஅகற்றி -**Carminative
பொதுகுணம்	:	***"ஈளை யிருமை லிரைப்புப் பசிப்பினிகள்*** ***மான வொழியாமல் வாட்டுமே -*** ***யாளமுறை*** ***பாங்கா யறிந்துசெய்வீர் பண்டிதத்தைப்*** ***பண்டிதரே*** ***வேங்கைவாய்ப் பான்கணை மெய்"*** **ஈளை, இருமல்,இரைப்பு, உப்பிசம் முதலிய பிணிகளைப் போக்கும்.**
Constituents	:	Piperine, Piperidine, Pipernonaline, Piperundecalidine

4.சிற்றரத்தை

Botanical Name	:	*Alpiniaofficinarum*
Family	:	*Zingiberaceae*
பயன்படும் பாகம்	:	**வேர்**
குணம்	:	**சுவை-கார்ப்பு ; வீரியம் - வெப்பம்; பிரிவு - கார்ப்பு**
செய்கை	:	**கோழையகற்றி** - Expectorant **வெப்பகற்றி** - **பசித்தீத்தூண்டி**–Stomachic
பொதுகுணம்	:	• **தலைநோய், சீதளம், இருமல், சுரம் நீங்கும்** • **சிற்றரத்தையை வாயிலிட்டு சுவைத்து வர தொண்டையில் கட்டும் கோழை, வாந்தி, இருமல் தணியும்**
Constituents	:	Flavonoids

5. அக்கரகாரம்

Botanical Name	:	*Anacyclus pyrethrum*
Family	:	Asteraceae
பயன்படும் பாகம்	:	**வேர்**
குணம்	:	**சுவை-கார்ப்பு ; தன்மை - வெப்பம்; பிரிவு - கார்ப்பு**
செய்கை	:	**வெப்பமுண்டாக்கி** – Stimulant **உமிழ்நீர்பெருக்கி** - **தடிப்புண்டாக்கி** - Rubefacient
பொதுகுணம்	:	**நாவறட்சி, தொண்டைகம்மல் நீங்கும்**
Constituents	:	Anacyclin, Pellitorine, Hydrocarolin

6.mjpkJuk

Botanical Name	:	Glycyrrhiza glabra
Family	:	Fabaceae
Part used	:	Nth

Fzk:

Rit : ,dpgG›jdik-rjk

gphpT : ,dpgG

nraif:-

twlrpafwwp	Emollient
cssoyhwwp	Demulcent
Nfhioafwwp	Mild Expectorant
kykpsffp	Laxative
cukhffp	Tonic

nghJFzk

fjjpahp Kggp zahy tUGz jhfq

fzNzhacd khjktpffy typntz Fllk

gpjjnkYk GUffp fphprruk Mthjj

gpjjkj %hrir tplghfk ntgge

jjjptU thjNrh zpjqfh khiy

rUtt tplq fhkpaNeha jhJ ellq

Fjjpuky Mrpaqfk ,joNeha ,eJ

FagG Zkkghk kJhfnkdf $Wq fhNy

(Nj.F)

Constitunents:-

Glycyrrhizin

Glycyrrhetinic acid

Glycyrrhizinic acid

7. Nfh\lk

Botanical Name : Costus speciosus

Family : Costaceae

gadgLk ghfk : Nth

F zk:-

Rit : ifgG› tpWtpWgG

jdik : ntggk

gphpT : fhhgG

nraif:-

grpjjJhzb Stomachic

Nfhioafwwp Expectorant

cukhffp Tonic

ntggKzlhffp Stimulant

tpahitgngUffp Diphoretic

nghJF zk:-

ehlbY ntlileLffk vDNehafs

Nfhllnkdr nrhd dhy fiyAqfhz - $lbw

RuNjhle njhz ilNeha Njhyhj gpjjk

guNjrk NghNk gweJ.

8. ,ytqfgglil

Botanical Name : Cinnamomum verum

Family : Lauraceae

gadgLk ghfk : glil

F zk:

Rit : fhuKk ,dpgGKilaJ

jdik : jlgk (ntgg thpa nkdWk $Wth)

gphpT : ,dpgG (fhhgngdWq $Wth)

nraif:-

ntggKzlhffp : Stimulant

mflLthatfwwp : Carminative

fhkkngUffp : Aphrodisiac

nghJFzk:-

jhJellk Ngjp rUttp\k MfpaNeha

G+jpfpu fQrpyejpg G+rrptplQ - rhjptplk

MlLkpiug NghbUky MfpaNehaf $llkw

XlLkpy tqfj Jhp

rddytq fggliljhdFsphrrp Azlhffk

,dDkpuj jffLgig ahfFqfhd - KddKWk

cejpf fLggfwWk cz%ygGzNghfFk

fejkpF G+qFoNy fhz

(m.F)

Constituents:-

Cinnamic Acid

Tannin

9. ,ytqfggjjph

Botanical Name	:	Cinnamomum tamala
Family	:	LAURACEAE
gadgLk ghfk	:	,iy

Fzk:-

Rit	:	fhhgG
thpak	:	ntggk
gphpT	:	fhhgG

nraif:-

ntggKzlhffp Stimulant

mflLthaftwwp Carminative

grpjjJhzb Stomachic

tpahitgngUffp Diaphoretic

nghJF z k:-

NkfRuk rjRuk n t l i lRth rqfhrk
jhfgpjjk thejprh thrpaNeha - Nkfjjpd
flbnahL jhJjllq ifggUfp Nghffptpk
,ll ,y tqfj jpiy

(m.F)

Constiuents:-

Eugenol, Beta- Caryophyllene
Linalool, Caryhyllene oxide

10. rpWehfgG+

Botanical Name	:	Mesua nagassarium
Family	:	Calophyllacea
gadgLk ghfk	:	G+

F z k:-

Rit	:	rpWifgG.JthgG
jdik	:	jlgk
gphpT	:	fhhgG

nraif:-

G+

Jthggp	-	Astringent
mflLthafwwp	-	Carminative

nghJF z k:-

rpWehfg G+tpd J nraifjidr nrhyNthk
FwpahFk Nkfjijf nfhyYk - newptplLj
jjhar nrythAit tAe jhfFkpF kwNghfFk
Nfhjha ,ijawpeJ nfhs

Constituents:-

Mesuol

11. fL FNuhfpdp

Botanical Name : Picrorhiza scrophulariiflora

Family : Scrophulariaceae

gadgLk ghfk : Nth

F zk:-

Rit : ifgG> fhhgG

jdik : ntggk

gphpT : fhhgG

nraif:-

Kiwntggfwwp Antiperiodic

ngUqfopr rY zlhffp Cathartic

grpjjjJhzb Stomachic

FlwGOtfwwp Anthelmintic

nghJF zk

khejr Ruikak thAfug ghkhkQ

Nrhjjkyf flL jphpNjhlk - Nghjjnghl Lg

Gdtap W Nehaitg Nghk nghwnfhbNa - Ngjp A zlhk

jpzfLF Nuhf zpfFj Njh

Constituents:-

Picrorhizin

Kutkin

12. Njwwhd

Botanical Name : Strychnos Potatorum

Family : Loganiaceae

gadgLk ghfk : tpij

F zk:-

Rit : ifgG

jdik : ntggk

gphpT : fhhgG

nraif:-

clwNwww p Alterative

cukhff Tonic

grjjjJhzb Stomachic

cssoyhwwp Demulcent

rpWNfhioafwwp Mild Expetorant

nghJFzk:-

Njwwhd fdp jdffr Nrapioant tdfhfj

Njhwwh njhopAQ RthrKkNghQ - rhwwpdkpf

thejp ngUfk kyk NghkKj Njhljijr

Nrhejgp zpfSk NghQ nrgG

(m.F)

Constiuents:-

Brucine

13. MlhNjhil

Botoanical Name	:	Adhatoda vasica
Family	:	Acanthaceae
gadgLk ghfk	:	,iy

Fzk:-

Rit	:	ifgG
jdik	:	ntggk
gphpT	:	fhhgG

nraif:-

,rpt fwwp	Antispasmodic
Nfhioafwwp	Expectorant
ElGOfnfhyyp	Germicide
rpWeh ngUffp	Diuretic

nghJFzk:-

MlhNjhilapd Fzjijmi lTl Diufff NfSk

ghlhj ehTk ghLk gphpeJNk Njhlk NghFk

thlhj gpjjQ Nrjk Nuhfqfs tpyfpg NghFk

ehlhJ tpahjp jhDk eytpopf Foypdhns

(v.L)

Constituents:-

Vasicine

Adhatodic acid

14.n t s\r r g\r\d

Botanical Name	**:**	**Gardenia resinifera**
Family	**:**	**Rubiaceae**
Part Used	**:**	**Resin**
Action	**:**	**Emetic**
		Antispasmodic
		Expectorant
		Carminative
		Stimulant

Chemical compound: Crocetin

15. , e J g G :

Cemical Name	:	Sodium chloride impure
English Name	:	Rock Salt
R j j\K i w	:	, j i d fhba\d %dW ehs CwgNghlL #h\a x s\a\y c yhj j\ vL f f R j j\ahFk

n r a i f

k y f hh\

m f l L t ha t fww\

r\Weh ngU f f\

gr\j j j J} z b

ngh J F z k

m l l F z kk kejk mr\hf fuQ #h r j g\j j e

J l l i t ak ehbgG z Nlhlqfs - n f l l ky f

f l L t\l t\e i j af fhk\aNeha t d fuggh d

t\eJg i g t\s

,eJgg;dhy vz t;jFdkk› myrk› mr;hffuk› eukG f;uej;› ky gejk› jiy› Nahd;Nehafs› Rthrk› ,ujj%yk Kjy;ag;z;fs eqFk

தேன்:

குணம் : **சுவை- இனிப்பு ; நிறம் - இளமஞ்சள்**

செய்கை : **உள்ளழலாற்றி** - Demulcent

கோழையகற்றி - Expectorant

மலமிளக்கி - Laxative

துவர்ப்பி - Astringent

அழுகலகற்றி - Antiseptic

போஷணகாரி - Tonic

பசித்தீத்தூண்டி - Stomachic

தூக்கமுண்டாக்கி - Hypnotic

பொதுகுணம் : **அவிழ்தம் பலிக்க வேண்டுமானால் அனுபானப் பொருள் தேவை என்பதையும், அவ்வனுபானப் பொருள்களுள் தேனும் ஒன்று என்பதையும் “**

அனுபானத் தாலே யவிழ்தம் பலிக்கும்

இனிதான சுக்கு ன்னலிஞ்சி - பினுமுதகங்

கோமயம் பால் முலைப்பால் கோநெய்தேன்

வெற்றிலை நீர்

ஆமிதையா ராய்ந்து செயலாம்”

-குணபாடம் தாது சீவ வகுப்பு

என்ற செய்யுளால் உணரலாம்.

தேன் அனுபானப் பொருளாவதன்றி அவிழ்தப்

பொருளுமாகி தேகத்தை நன்னிலையில் வைத்து, வாதம் முதலிய மூன்று குற்றங்களையும் போக்கும் என்பதை தேரன் கூறுகிறார்.

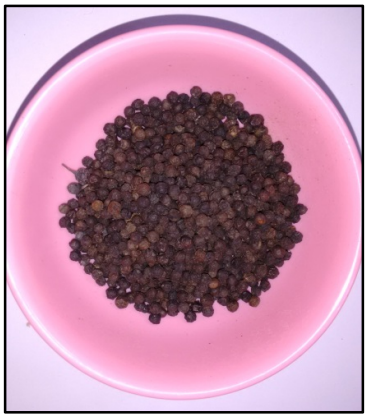
தேனைபானம் செய்து வந்தால் கபப்பிணிகள் நீங்கும்.

Constituents : Honey is mainly a mixture of dextrose (grape sugar) and levulose (fruit sugar). It also contains wax, Volatile oil, mucilage, coloring matter, formic acid , ash, ethereal oil, phosphates, calcium, iron, fat soluble, water soluble vitamins and a special protein.

INGREDIENTS

Zingiberoffcinale

Alpiniaofficinarum



Piper nigrum

Anacyclus pyrethrum

mhpr pjpggpypPiper longum

வெளிச்சப்பிசின்

இந்துப்பு

தேற்றான் விதை

இலவங்கப்பத்திரி

சிற்றரத்தை

சிறுநாகப்பூ

இலவங்கப்பட்டை

கோஷ்டம்

ஆடாதோடை இலை சாறு

ஆடாதோடை இலை

கடுகுரோகிணி

OBSERVATION AND RESULTS

Results were observed with respected to the following criteria

1.Age distribution

2.Sex distribution

3.Religion distribution

4.Informant

5.Diet

6.Socio-economic status

7.Paruvakaalangal

8.Thinaigal

9.Clinical features

10.Uyirthathukkal

11.Udalthathukkal

12.Envagaithervugal

13.Neikuri

14.IP case sheet report

15.OP report

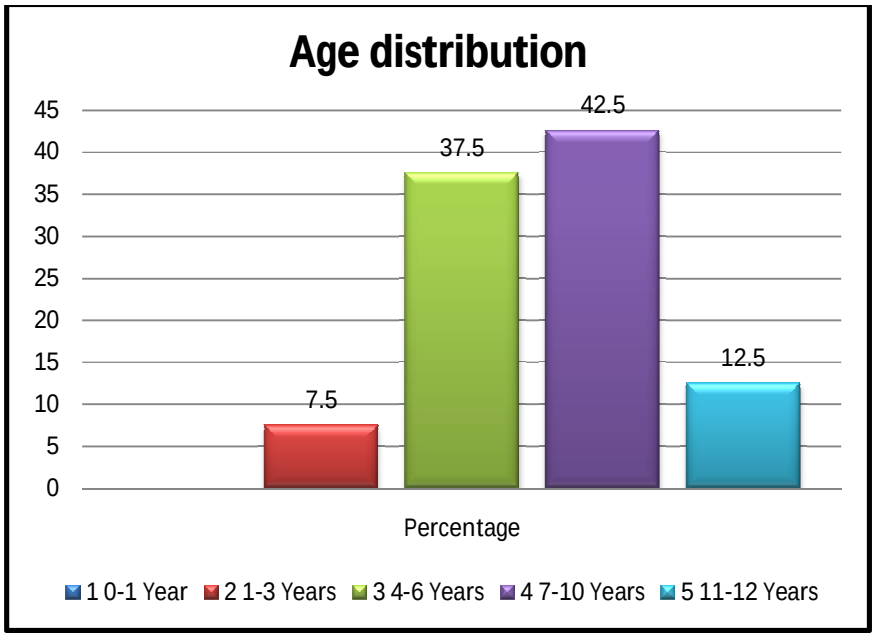
16.Investigation

17.Results

For this study results, 20 In Patients and 20 Out Patients were selected.

1. AGE DISTRIBUTION:

S.No	Age	No of cases	Percentage
1.	0-1 Year Kappu and Chenkeerai	-	-
2.	1-3 Years Varugai,Thalattu, Sappani, Muttham	3	7.50
3.	4-6 Years Ambuli,Chitril,Chiruparai,Chiruther, Paethai(female) &Pillai(male)	15	37.5
4.	7-10 Years Paethumbhaiparuvam(female),Chiruparuvam(male)	17	42.5
5.	11-12 Years Mangai(female), Valibam(male)	5	12.5

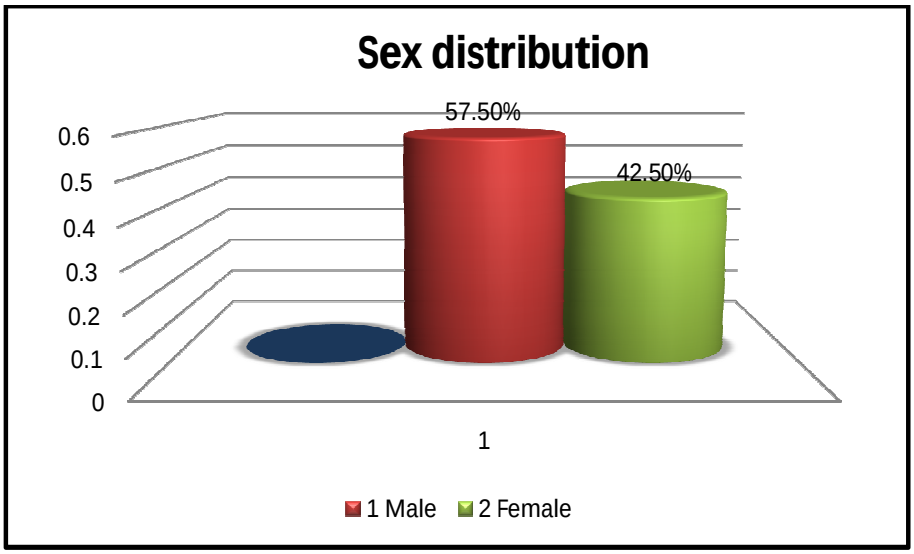


INFERENCE

Out of 40 cases 7.5% of cases belong to age group 1-3 years, 37.5 % of cases belong to age group of 4-6 years, 42.5 % of cases belong to age group of 7-10 years and 12.5% of cases belong to age group 11-12 years.

2.SEX DISTRIBUTION:

S.No	Sex	No of cases	Percentage
1.	Male	23	57.5%
2.	Female	17	42.5%

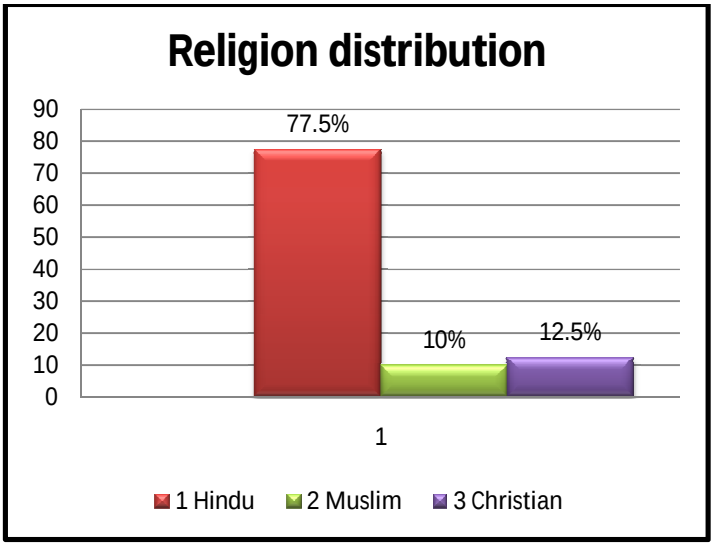


Inference

Among 40 cases of study 23 were male (57.5%) and 17 were female (42.5%).

3.Religion distribution:

S.No	Religion	No of cases	Percentage
1.	Hindu	31	77.5
2.	Muslim	4	10
3.	Christian	5	12.5

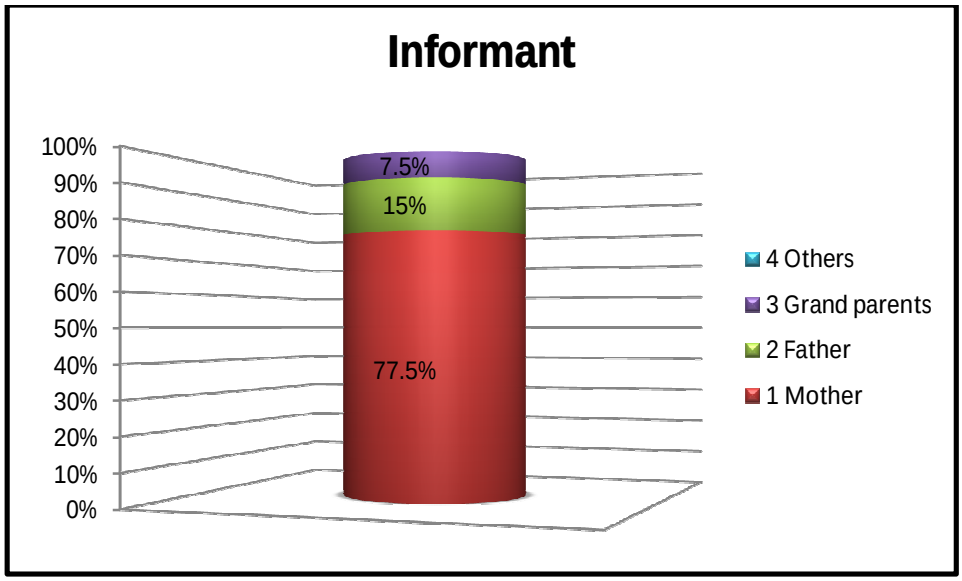


INFERENCE

Out 40 cases 77.5 % were Hindu, 10 % were Muslim and 12.5 % were Christian

4.INFORMANT:

S.No	Informant	No of cases	Percentage
1.	Mother	31	77.50
2.	Father	6	15
3.	Grand parents	3	7.5
4.	Others	-	-

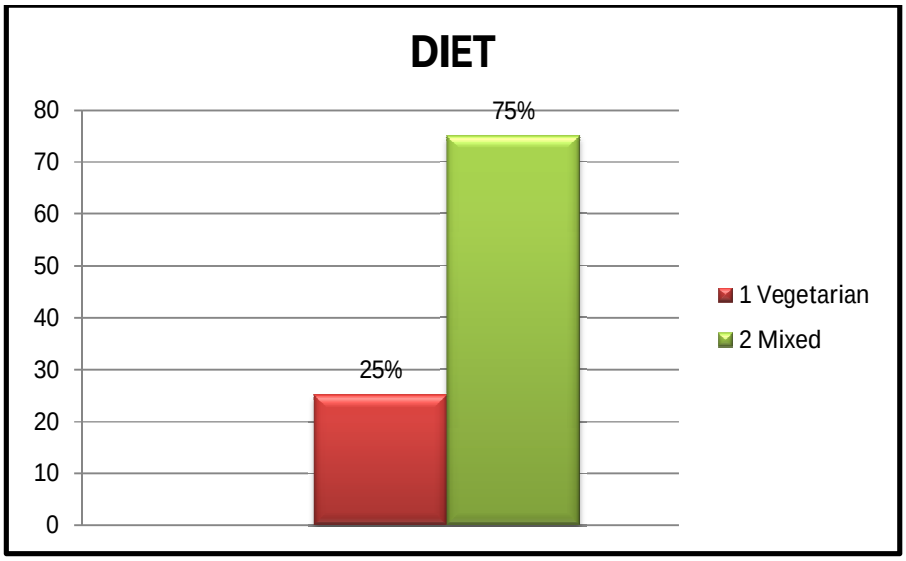


Inference

According to this 77.5 % of cases were good reliability, 15 % of cases were fair reliability and 7.5% cases were not reliable.

5.DIET:

S.No	Food Habit	No of cases	Percentage
1.	Vegetarian	10	25
2.	Mixed	30	75

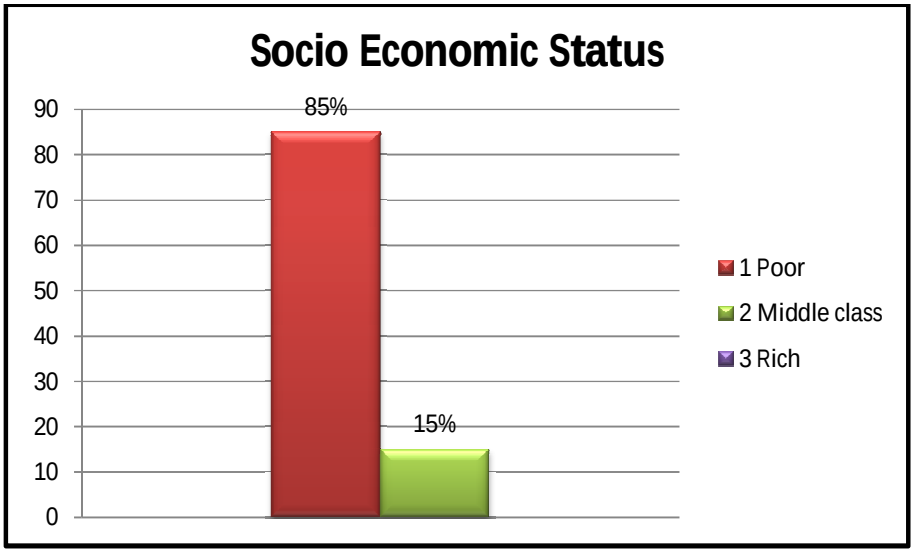


INFERENCE

Out of 40 cases 25% were Vegetarian and remaining 75% mixed diet.

6.SOCIO ECONOMIC STATUS

S.No	Socio Economic Status	No of cases	Percentage
1.	Poor	34	85
2.	Middle class	6	15
3.	Rich	-	-

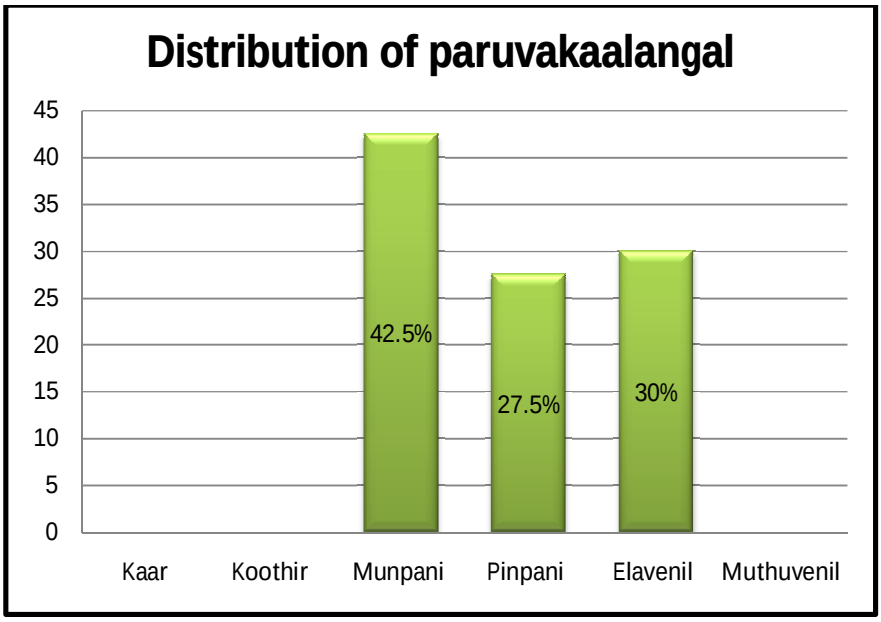


Inference

Out of 40 cases 85 % belong to poor socio economic class and 15% belong to middle class.

7. DISTRIBUTION OF PARUVAKAALANGAL:

S.No	Paruvakaalangal	No of cases	Percentage
1.	Kaar(Aavani,Purattasi) (August to October)	-	-
2.	Koothir (Ayppasi,Karthigai) (October to December)	-	-
3.	Munpani (Markazhi,Thai) (December to February)	17	42.5
4.	Pinpani (Maasi,Pankuni) (February to April)	11	27.5
5.	Elavenil (Chitthirai,Vaikasi) (April to June)	12	30
6.	Muthuvenil (Aani,Aadi) (June to August)	-	-



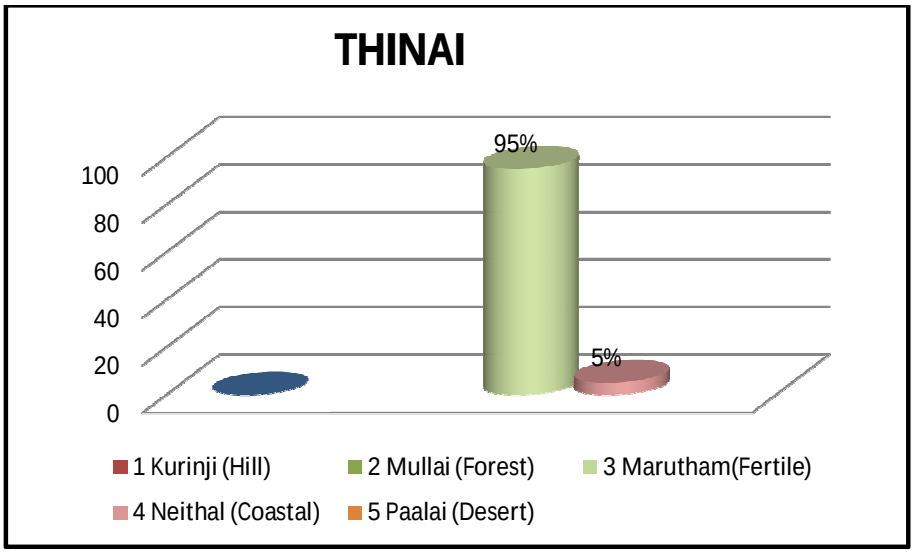
INFERENCE

Out of 40 cases 42.5 % of cases came during Munpanikaalam, 30% of cases of the incidence come under the Elavenilkaalam, 27.5 % of cases of the incidence come under the Pinpanikaalam.

The Table showed more prevalence of the disease under Munpanikaalam.

8. DISTRIBUTION OFTHINAIGAL (LANDS)

S.No	Thinai	No of cases	Percentage
1.	Kurinji (Hill)	-	-
2.	Mullai (Forest)	-	-
3.	Marutham(Fertile)	38	95
4.	Neithal (Coastal)	2	5
5.	Paalai (Desert)	-	-

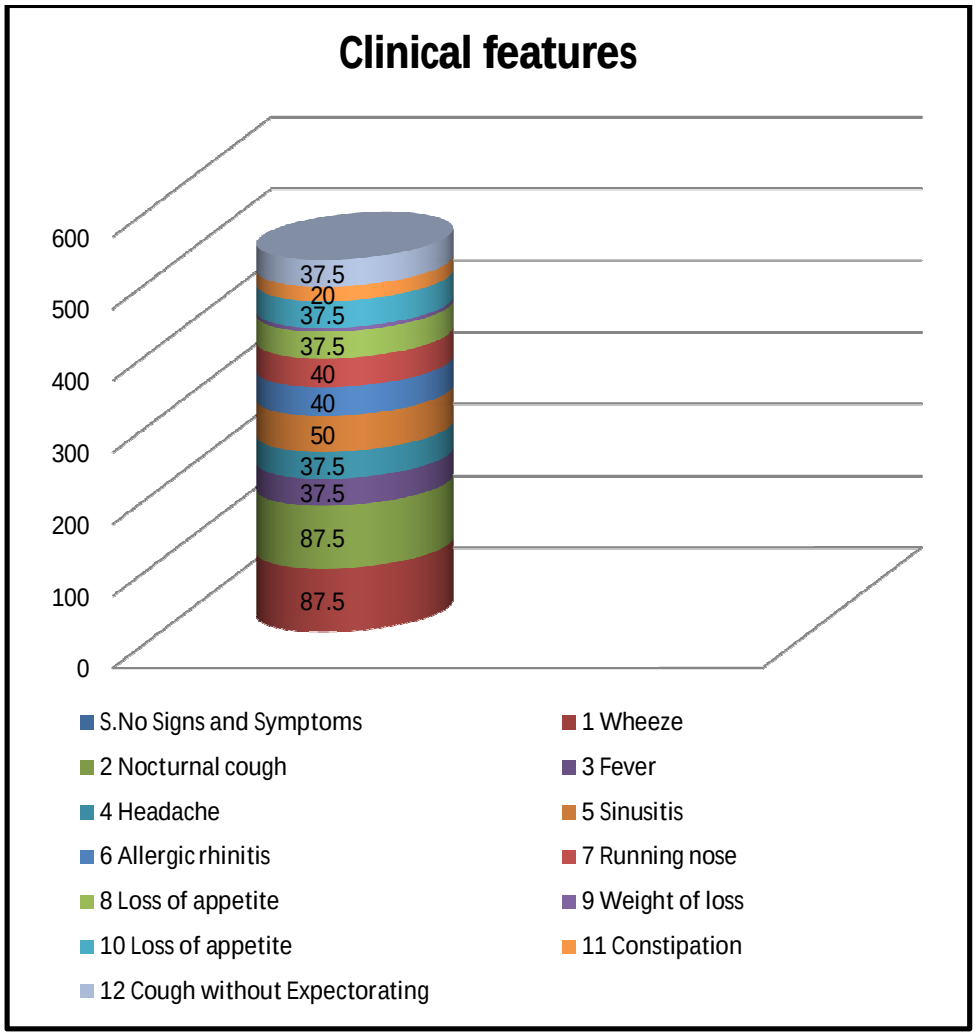


Inference

According to Siddha concept, no disease occurs to the people living in marutham, but people nowadays entirely differs from their ancestors both in dietary and other habits. And also the study was conducted in and aroundTirunelveli, amarutham land. So, Majority of cases are from this land.

9. CLINICAL FEATURES

S.No	Signs and Symptoms	No of cases	Percentage
1.	Wheeze	35	87.5
2.	Nocturnal cough	35	87.5
3.	Fever	15	37.5
4.	Headache	15	37.5
5.	Sinusitis	20	50
6.	Allergic rhinitis	16	40
7.	Running nose	16	40
8.	Loss of appetite	15	37.5
9.	Weight of loss	2	5
10.	Loss of appetite	15	37.5
11.	Constipation	8	20
12.	Cough without Expectorating	15	37.5



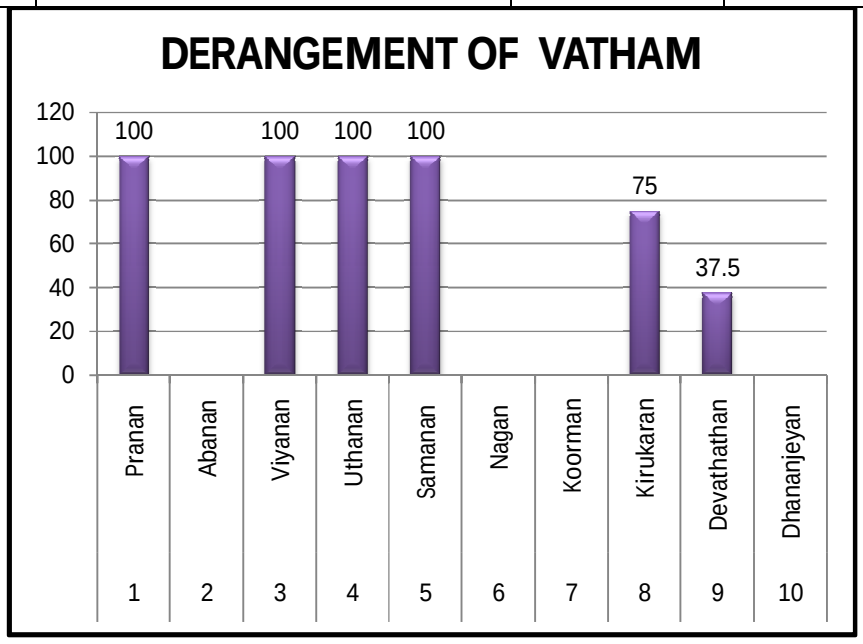
INFERENCE

Major clinical symptoms reported to be Wheeze and Nocturnal cough. Most of the clinical signs were relieved after treatmet.

10.Uyirthathukkal

a. DERANGEMENT OF VATHAM

S.No	Type of vatham	No of cases	Percentage
1.	Pranan ( )	40	100
2.	Abanan	-	-
3.	Viyanan	40	100
4.	Uthanan	40	100
5.	Samanan	40	100
6.	Nagan	-	-
7.	Koorman	-	-
8.	Kirukaran	30	75
9.	Devathathan	15	37.5
10.	Dhananjeyan	-	-

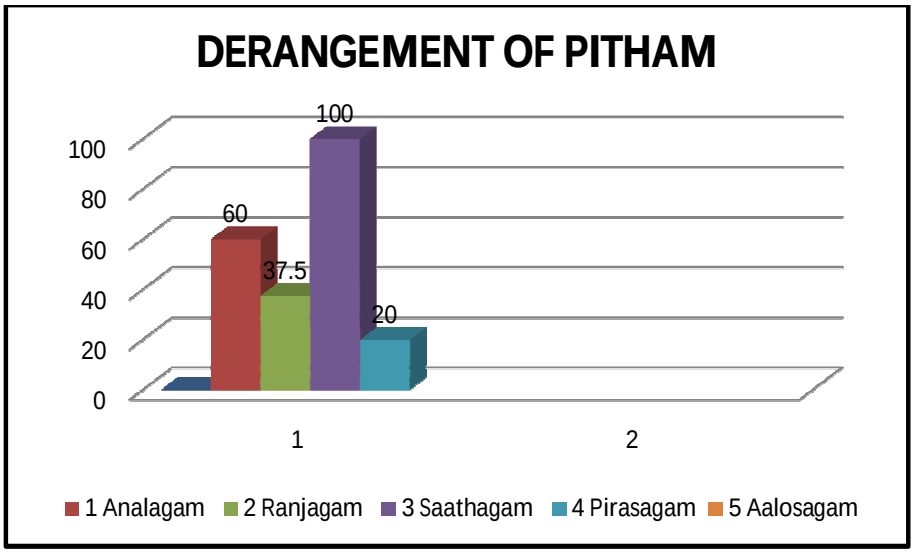


INFERENCE

According to this Pranan, Viyanan, Uthanan, Samanan has 100 %, Kirukaran has 75% and Devathathan have lowest percentage of 37.5%.

B. DERANGEMENT OF PITHAM

S.No	Type of pitham	No of cases	Percentage
1.	Analagam ( )	24	60
2.	Ranjagam	15	37.5
3.	Saathagam	40	100
4.	Pirasagam	8	20
5.	Aalosagam	-	-

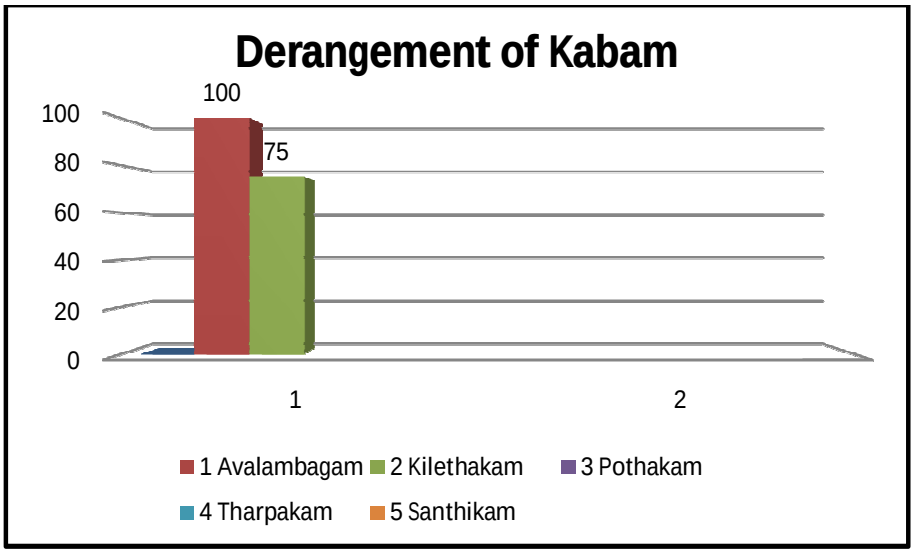


INFERENCE

According to this, Saathagam has 100%, Analagam has 60 %, Ranjagam has 37.5 % and Pirasagam has 20%.

c. DERANGEMENT OF KABAM

S.No	Type of kabam	No of cases	Percentage
1.	Avalambagam	40	100
2.	Kilethakam	30	75
3.	Pothakam	-	-
4.	Tharpakam	-	-
5.	Santhikam	-	-

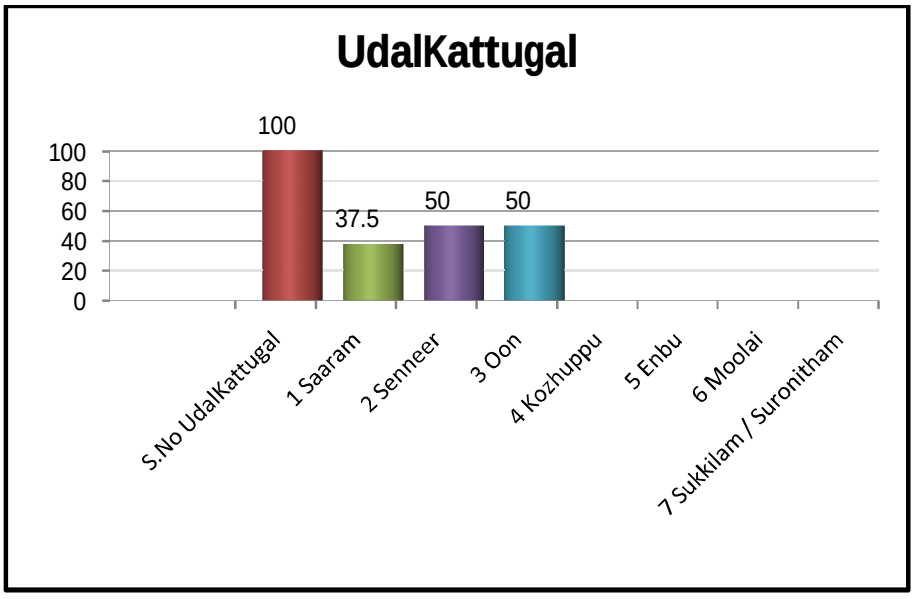


INFERENCE

According to this,Avalambagam has 100% and Kilethakam has 75%.

11. UDALKATTUGAL

S.No	UdalKattugal	No of cases	Percentage
1.	Saaram	40	100
2.	Senneer	15	37.5
3.	Oon	20	50
4.	Kozhuppu	20	50
5.	Enbu	-	-
6.	Moolai	-	-
7.	Sukkilam / Suronitham /	-	-

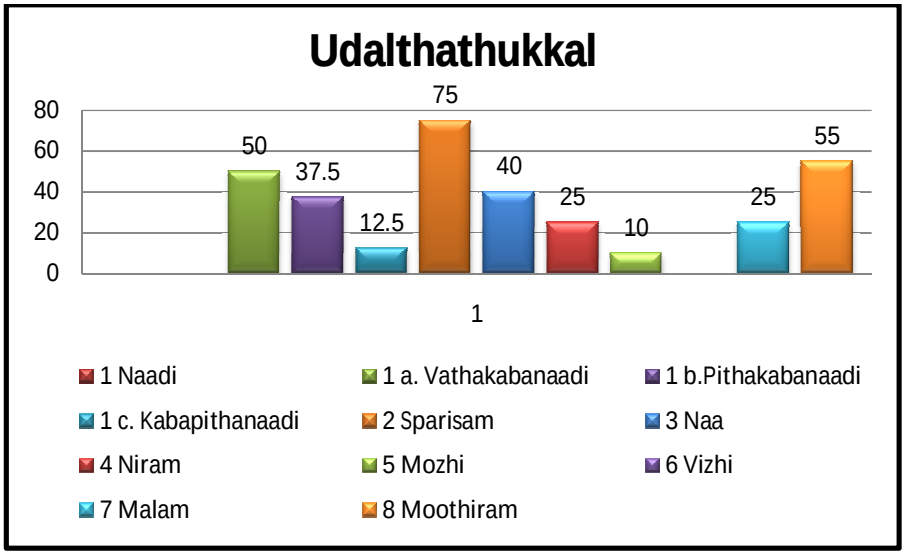


INFERENCE

According to this Saaram has 100%, Oon and Kozhuppu have 50 % and Senneer has 37.5%.

12. EnvagaiThervugal

S.No	Udalthathukkal	No of cases	Percentage
1.	Naadi		
	a. Vathakabanaadi	20	50
	b. Pithakabanaadi	15	37.5
	c. Kabapithanaadi	5	12.5
2.	Sparisam	30	75
3.	Naa	16	40
4.	Niram	10	25
5.	Mozhi	04	10
6.	Vizhi	-	-
7.	Malam	10	25
8.	Moothiram	22	55

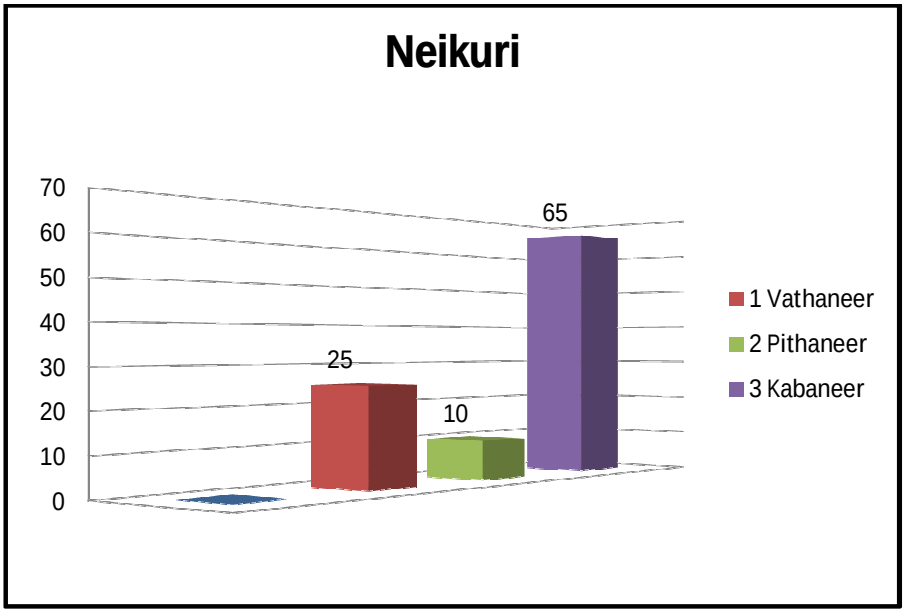


Inference

According to this sparisam has highest percentage as 75%, Moothiram have 55 % and mozhi have 10 % as lowest value.

13. Neikuri

S.No	Character of urine	Neikuri reference	No of cases	Percentage
1.	Spreads like serpent	Vathaneer	10	25
2.	Spreads like ring	Pithaneer	4	10
3.	Spreads like pearl	Kabaneer	26	65



Inference

According to this Kabaneer have 65 %, Pithaneer have 10 % and Vathaneer have 25 %.

14.Case reports of twenty cases for the diseases – Sooli kanam

Post graduate department of Kuzhanthai Maruthuvam

S. No.	IP No.	Name of The patient	Age/ Sex	Date of Admission	Signs and Symptoms	Date of Discharge	Duration	Total no of days treated	Result
1	618	Hari	5/MC	07.03.16	Cough with expectoration, Wheeze,, Poor appetite	28.03.16	3 months	22 26	Good
2	843	Rashima	7/FC	09.03.16	Fever ,Running nose, Cough with expectoration, Loss of appetite	28.03.16	1 month	20 28	Good
3	835	Kalaiarasi	10/FC	28.03.16	Cough with expectoration, Wheeze, Sinusitis	27.04.16	15 days	29 19	Good
4	832	Shivani	8/FC	28.03.16	Cough with expectoration, Wheeze, Constipation	22.04.16	1 year	35 13	Good
5	901	Suddalay	9/MC	02.04.16	Fever,Nocturnal Cough,Wheeze	30.04.16	16 days	28 20	Good
6	905	Roshi	12/FC	02.04.16	Fever ,Running nose, Cough with expectoration, Loss of appetite.	19.04.16	2 weeks	17 31	Good
7	912	Ashwin	4/MC	03.04.16	Cough with expectoration, Wheeze	30.04.16	2 months	28 20	Good

8	1060	Abdul Rahman	11/MC	20.04.16	Fever ,Running nose, Cough with expectoration, Loss of appetite, Sinusitis	13.05.16	45 days	23 25	Good
9	1205	Isravel	10/MC	05.05.16	Cough with expectoration, Sneezing, Wheeze	31.05.16	1 week	26 22	Good
10	1257	Rajini	8/FC	12.05.16	Fever, Sneezing, Headache, Running nose, Cough with expectoration	26.05.16	8 days	14 34	Good
11	1267	Aisha	11/FC	13.05.16	Cough with expectoration, Wheeze, Constipation,Running nose	25.05.16	6 days	12 36	Moderate
12	1269	Murugan	7.5/MC	13.05.16	Fever, Cough withexpectoration, Wheeze	01.06.16	28 days	18 30	Good
13	1270	Thomas	9/MC	13.05.16	Cough with expectoration, Wheeze	01.06.16	17 days	18 30	Good
14	1357	Sriprammatchi	5/FC	23.05.16	Fever, Cough with expectoration, Headache, Running nose,loss of appetite	06.06.16	6 days	14 34	Good

15	1430	GomathiSankar	3.5/FC	31.05.16	Cough withexpectoration, Wheeze, Allergic Rhinitis	20.06.16	20 days	22 26	Good
16	1431	Subathra	3.5/FC	31.05.16	Cough with expectoration, Headache, Sneezing, Wheeze	18.06.16	25 days	20 28	Good
17	1455	Charupriya	2.5/FC	02.06.16	Cough with expectoration, Headache, Wheeze	10.06.16	3 weeks	9 39	Poor
18	1456	Rasi	10/MC	02.06.16	Cough withexpectoration, Wheeze, Sinusitis	10.06.16	25 days	9 19	Good
19	1457	Dinesh	6/MC	02.06.16	Fever, Cough with expectoration, Headache, loss of appetite	06.06.16	16 days	5 24	Good
20	1458	Uma	10/FC	02.06.16	Fever, Cough with expectoration, Wheeze, Sinusitis	16.06.16	2 weeks	15 14	Moderate

15.OUTPATIENTS RECORDS

S.No.	OP No.	Name	Age/ sex	No. of days treated	Remarks
1	8080	Sriram	6/MC	45	Good
2	8207	Renuka	3/FC	45	Good
3	9341	Kaleeshwari	7/FC	36	Good
4	9474	Anand	12/MC	25	Good
5	9909	Abisha	7/MC	36	Good
6	10346	Jo	5/MC	30	Good
7	10362	Ganesh Babu	5/MC	16	Moderate
8	10413	Stalin	5/MC	21	Good
9	10966	Maragadham	11/FC	45	Good
10	11039	Anushka	9/FC	28	Good
11	13416	Nagarajan	11/MC	45	Good
12	15216	Joshua	5/MC	30	Good
13	15330	Zeenath	7/FC	35	Good
14	15370	Papu	5/FC	18	Moderate
15	15386	Anandhan	10/MC	30	Good
16	18121	Kasthoori	7/MC	25	Good
17	18419	Ajith	4/MC	15	Poor
18	20443	Mukilan	5/MC	18	Moderate
19	22320	Harivishwa	3/MC	28	Good
20	23429	Karthik	4/MC	30	Good

16- Lab Investigation

S.No.	IP No.	Name of The patient	Age/ Sex	X – ray chest		SPUTUM	WBC total count Cu.mm		Hematological investigation						AEC		ESR		Hbgm %	
									WBC differential count / cu.mm								Mm /hr			
									BT			AT								
				BT	AT		BT	AT	P%	L%	E%	P%	L%	E%	BT	AT	BT	AT	BT	AT
1	618	Hari	5/MC	Nor	Nor	-Ve	9100	8700	55	40	5	54	45	1	670	320	19	09	8.1	10
2	843	Rashima	7/FC	Bro	Nor	-Ve	8300	7960	60	34	6	56	42	2	360	280	15	10	11	12
3	835	Kalaiarasi	10/FC	Bro	Nor	-Ve	8500	7900	55	40	5	53	45	2	1460	670	22	10	9.3	10.8
4	832	Shivani	8/FC	Nor	Nor	-Ve	9500	9100	60	35	5	55	43	2	Nil	Nil	13	07	11	12
5	901	Suddalay	9/MC	Nor	Nor	-Ve	9100	8950	50	46	4	58	40	2	Nil	Nil	13	10	12	13
6	905	Roshi	12/FC	Nor	Nor	-Ve	8200	7500	52	40	8	58	40	2	1260	560	10	08	11	12.5
7	912	Ashwin	4/MC	Nor	Nor	-Ve	9800	9300	80	17	3	67	32	1	Nil	Nil	15	10	9.1	11
8	1060	Abdul Rahman	11/MC	Bro	Nor	-Ve	8600	8200	65	31	4	55	43	2	Nil	Nil	16	09	12.2	13.5
9	1205	Isravel	10/MC	Bro	Nor	-Ve	9050	8930	56	40	4	55	44	1	Nil	Nil	08	05	9.8	10.5
10	1257	Rajini	8/FC	Nor	Nor	-Ve	9000	9000	56	42	2	52	47	1	Nil	Nil	10	06	12.3	13.8
11	1267	Aisha	11/FC	Nor	Nor	-Ve	9100	8900	49	46	5	60	36	4	360	330	10	05	10.8	11.2
12	1269	Murugan	7.5/MC	Nor	Nor	-Ve	7500	7000	54	42	4	58	40	2	250	230	38	20	10	11
13	1270	Thomas	9/MC	Bro	Nor	-Ve	8100	8000	64	33	3	66	33	1	340	320	20	14	11	12.1
14	1357	Sriprammatchi	5/FC	Nor	Nor	-Ve	8600	8400	52	44	4	57	42	1	Nil	Nil	20	08	9	10
15	1430	GomathiSankar	3.5/FC	Nor	Nor	-Ve	11500	9700	53	42	5	53	45	2	Nil	Nil	15	10	10	11.5
16	1431	Subathra	3.5/FC	Nor	Nor	-Ve	8000	8000	58	40	2	60	39	1	Nil	Nil	06	06	10	12
17	1455	Charupriya	2.5/FC	Nor	Nor	-Ve	12800	9450	65	27	8	62	30	8	1300	1280	38	35	9	9
18	1456	Rasi	10/MC	Bro	Nor	-Ve	8000	7500	50	44	6	56	42	2	370	320	18	10	10.6	11.2
19	1457	Dinesh	6/MC	Nor	Nor	-Ve	9100	9000	53	40	7	52	46	2	290	250	12	08	11	12
20	1458	Uma	10/FC	Nor	Nor	-Ve	8600	8300	65	31	4	60	38	2	320	300	16	10	13.8	14

BT – Before Treatment ; AT – After Treatment ; P – Polymorphs ; E – Eosinophils ; ESR – Erthrocyte Sedimentation ; HB – Haemoglobin ; WBC – White blood cell ; AEC- Absolute Eosinophil Count;Bro – Bronchitis

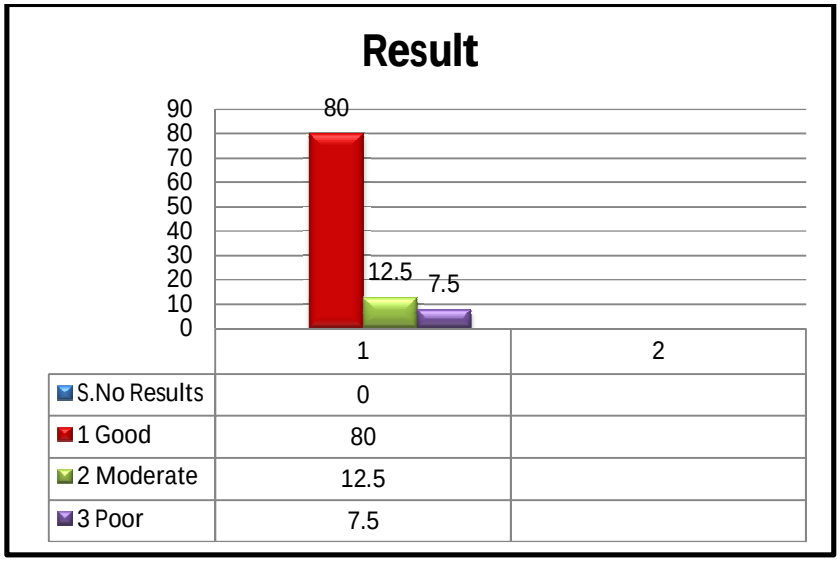
S.No.	IP No.	Name of The patient	Age/ Sex	Urine Analysis						Motion analysis			
				BT			AT			BT		AT	
				Alb	Sug	Dep	Alb	Sug	Dep	Ova Cyst	Occult Blood	Ova Cyst	Occult Blood
1	618	Hari	5/MC	Nil	Nil	NAD	Nil	Nil	NAD	Nil	Nil	Nil	Nil
2	843	Rashima	7/FC	Nil	Nil	NAD	Nil	Nil	NAD	Nil	Nil	Nil	Nil
3	835	Kalaiarasi	10/FC	Nil	Nil	NAD	Nil	Nil	NAD	Nil	Nil	Nil	Nil
4	832	Shivani	8/FC	Nil	Nil	NAD	Nil	Nil	NAD	Nil	Nil	Nil	Nil
5	901	Suddalay	9/MC	Nil	Nil	NAD	Nil	Nil	NAD	Nil	Nil	Nil	Nil
6	905	Roshi	12/FC	Nil	Nil	NAD	Nil	Nil	NAD	Nil	Nil	Nil	Nil
7	912	Ashwin	4/MC	Nil	Nil	NAD	Nil	Nil	NAD	Nil	Nil	Nil	Nil
8	1060	Abdul Rahman	11/MC	Nil	Nil	NAD	Nil	Nil	NAD	Nil	Nil	Nil	Nil
9	1205	Isravel	10/MC	Nil	Nil	NAD	Nil	Nil	NAD	Nil	Nil	Nil	Nil
10	1257	Rajini	8/FC	Nil	Nil	NAD	Nil	Nil	NAD	Nil	Nil	Nil	Nil
11	1267	Aisha	11/FC	Nil	Nil	NAD	Nil	Nil	NAD	Nil	Nil	Nil	Nil
12	1269	Murugan	7.5/MC	Nil	Nil	NAD	Nil	Nil	NAD	Nil	Nil	Nil	Nil
13	1270	Thomas	9/MC	Nil	Nil	NAD	Nil	Nil	NAD	Nil	Nil	Nil	Nil
14	1357	Sripremmatchi	5/FC	Nil	Nil	NAD	Nil	Nil	NAD	Nil	Nil	Nil	Nil
15	1430	GomathiSankar	3.5/FC	Nil	Nil	NAD	Nil	Nil	NAD	Nil	Nil	Nil	Nil
16	1431	Subathra	3.5/FC	Nil	Nil	NAD	Nil	Nil	NAD	Nil	Nil	Nil	Nil
17	1455	Charupriya	2.5/FC	Nil	Nil	NAD	Nil	Nil	NAD	Nil	Nil	Nil	Nil
18	1456	Rasi	10/MC	Nil	Nil	NAD	Nil	Nil	NAD	Nil	Nil	Nil	Nil
19	1457	Dinesh	6/MC	Nil	Nil	NAD	Nil	Nil	NAD	Nil	Nil	Nil	Nil
20	1458	Uma	10/FC	Nil	Nil	NAD	Nil	Nil	NAD	Nil	Nil	Nil	Nil

Alb – Albumin Sug – Sugar ; Dep – Deposit ; NAD – No abnormal Deposits ; Nor – Normal ;L /min – Liter / minute

17. RESULT

Among 40 cases, the results were observed as follows

S.No	Results	No of cases	Percentage
1.	Good	32	80
2.	Moderate	5	12.5
3.	Poor	3	7.5



INFERENCE:

80 % of the cases showed Good results and 12.5% of the cases showed Moderate results and 7.5 % of the cases showed Poor response. These results are based on the clinical improvement.

DISCUSSION

SooliKanam is a paediatric problem, the clinical features of which are clearly described in various Siddhar texts. This disease most probably correlates with *Childhood Asthma*, which limits the daily activities of child and interferes with sleep and school absenteeism.

In this study, 20 cases were treated at the Out-Patientpost graduate department and 20 cases were treated at the In-Patient ward. Siddha methods ofdiagnosis were carried out and recorded in the selection proforma and the diagnosis was confirmed with the help of modern investigations. The patients were treated with the drug "BALAKABAHARI MATHIRAI" and results were observed. The observations are discussed here under.

Distribution according to age

This study indicates that children under the age group of 7-10 years (42.5 %) are mostly affected. Since they contribute to school going age they may be exposed to a variety of allergens.

Distribution according to sex

Among 40 cases of study 57.5 % were male children and 42.5 % were female children.

Distribution according to religion

Out of 40 cases 77.5 % were Hindu, 12.5 % were Christian and 10 % were Muslim.

Informant

According to this 77.50 % of cases were good reliability, 15 % of cases were fair reliability and 10 % of cases were not reliable.

Diet history

According to diet history 75 % of cases had mixed diet and 25 % of cases had vegetarian diet. The highest incidence of cases was observed in mixed diet of food habits.

Distribution according to socio economic status

Most of the patients, around 85 % were belonged to poor economic status, 15% were belonged to middle class. Due to poverty, malnutrition, overcrowding and

unhygienic practices this disease is more prevalent among the poor.

Distribution of land

Among the selected 40 cases 95 % of them were from Marutham land and 5% of them were from Neithal land. This is due to the fact that the study was conducted at Tirunelveli, a Marutham land and so majority of the cases were from this land.

Distribution of paruvakaalangal

Among the selected 40 cases, according to paruvakaalam the highest distribution of 42.5 % was noticed in munpanikaalam, 30 % was noticed in ElavenilKaalam and 27.5 % was noticed in PinpaniKaalam.

Distribution according to Aetiological factors

Inhaled Allergens, cool foods and beverages contributes 60 to 80 % of the most common Etiological factors. Family history of allergy was found in 50 % of the cases. 80% of cases were affected by the Climatic changes. 70% of cases were with Etiology of Respiratory infection.

Distribution of Clinical features

Almost all the cases were presented with Wheeze and Nocturnal cough. 37.5 % of cases had fever and vomiting. 40% of cases were presented with Sinusitis and Allergic Rhinitis.

Distribution of illness

Distribution according to uyirthathukkal

a. Derangement of Vatham

Due to derangement of vatham,Pranan,Viyanan,Uthanan, Samanan were affected in all the 100 % of the patients. Kirukaran was affected in 75 % of the patients andDevathathan was affected in 37.5 % of the patients.

b. Derangement of Pitham

Due to derangement of pitham, Saathgam was affected in all the 100 % of the patients. Analagam was affected in 60 % of the patients. Ranjagam was affected in 37.5 % of the patients. Pirasagam was affected in 20 % of the patients.

c. Derangement of Kabam

Due to derangement of Kabam, Avalambagam was affected in all the 100 % of the patients. Kilethakam was affected in 75 % of the patients.

Distribution according to UdalKattugal

According to UdalKattugal ,Saaram was affected in all the 100 % of the patients. Oon and Kozhuppu were affected in 50%of the patients. Senneer was affected in 37.5 % of the patients.

Distribution according to Envagaithervugal

According to Envagaithervugal, Sparisam was affected in 75 % of the patients. Moothiram was affected in 55 % of the patients. Naa was affected in 40 % of the patients. Niram and Malam were affected in 25 % of the patients.

Distribution according to Neikuri

According toNeikuri most of the patients affected by Kabaneer as 65 % of patients, Vathaneer as 25 % and Pithaneer as 10%. Routine

Lab investigation

Routine examinatios of Blood, Urine and Motion were done during admission and discharged. In most of the cases ESR and Total Leucocyte count was elevated before treatment. Mantoux test was done for differential diagnosis to exclude Primary Complex.

Radiological Findings

Theradiological finding of majority of cases shows the evidence of Pulmonary Hyperventilation associated with the evidence of Obstructive Pulmonary Disease and Bronchitis.

Biochemical Analysis

Qualitative analysis of the trial drug revealed the presence of Ferrous Iron which is more soluble and readily absorbable form that helps in treating children who are associated with Anaemia. The study also indicates the presence of Calcium, Sulphate, Chloride, Starch, Tannic acid, Amino acid and Unsaturated compounds.

Antimicrobial Activity

Antimicrobial activity of *BalakabahariMathirai*showd that it inhibited the growth of bacterial strains of Escherichia coli, Streptococcus pneumonia and Staphylococcus aureus.

Pharmacological Analysis

Pharmacological Analysis showed the drug has significant Antihistamine and Antispasmodic actions.

Selection of the Trial Drug

The selection of the trial drug is based on the Pharmacological action of the drug, both in Siddha and Modern aspects.

Treatment

The trial medicine choosen for treatment for *SooliKanam* was ***BalakabahariMathirai***. The ingredients of this drug are found to have suitable properties for treating *SooliKanam*. All the patients were strictly advised to follow pathiyam. They were also advised to follow personal hygiene and other preventive measures.

The trial medicine selected for this study is very effective because the actions mentioned in each drug, which are used in this medicine contains Expectorant, Antispasmodic, Carminative, Stimulant, Tonic, Alterative, Digestive, Anodyne, Emollient, Hepatic tonic, Emetic and Demulcent actions which are beneficial for this disease. The *pothugunam* of every drug told by *Siddhars* is also beneficial.

The following suvaigal are present on the ingredients of ***BalakabahariMathirai***

Bitter – It equalises the vitiated Pitham and vitiated kabam.

Spicy – It equalises the vitiated kabam.

Astringent – It equalises the vitiated Pitham and vitiated kabam.

Sweet – It equalises the vitiated Pitham and vitiated vadham.

BalakabahariMathirai reduces cough, wheeze, nasal discharge, loss of appetite and increases digestive and absorption functions.

Result

Satisfactory improvement was reported in 3 days of commencement of treatment. Out of 40 cases 32 patients (80%) showed Good response with remarkable relief of symptoms. Moderate result was observed in 5 patients (12.5%) with reduction in signs ad symptoms. The result was poor in 3 patients (7.5%), as there was no significant improvement of symptoms.

SUMMARY

- The aim of this dissertation subject is to assess the efficacy of trial drug "*BalakabahariMathirai*" for "*SooliKanam*" without any adverse effects.
- The SooliKanam has been correlated with that of *Childhood Asthma* with evidence of literature.
- Clinical diagnosis and selection of cases was based on clinical features described in *Balavagadam* text book and also using questionnaire.
- The medicine chosen for treatment and management of *SooliKanam* was *BalakabahariMathirai*, ½ to 1 tablet (according to age) internally twice a day.
- The trial drug selection is based on its siddha pharmacological action to pacify the deranged vatham, pitham and kabam and also due to its Immuno modulatory and Anti - asthmatic effect of ingredients.
- Forty children were diagnosed with *Soolikanam* clinically and they were observed for clinical diagnosis, laboratory diagnosis, Peak Expiratory Flow rate during the treatment and the results were dealt in the proforma.
- Laboratory diagnosis was done by modern methods of examinations.
- The documentation of observations made during the clinical study showed that the drug is clinically effective.
- The biochemical analysis of the trial medicine had Calcium, Sulphate, Chloride, Ferrous iron, Tannic acid, Unsaturated compound and Amino acid which adds to the clinical prognosis of *SooliKanam* by *BalakabahariMathirai*.
- Antibacterial activity of *BalakabahariMathirai*showed that it inhabited the growth of bacterial strain against Streptococcus pneumonia, Staphylococcus aureus and Escherichia coli.
- In the pharmacological analysis, the trial drug *BalakabahariMathirai* had significant Anti-Histamine action an Anti-spasmodic action which by the virtue of controlling the airway hyper responsiveness help to improve the patients quality of life.
- With these benefits *BalakabahariMathirai*can be deemed as an effective Medicine for *Soolikanam [*Childhood Asthma].

CONCLUSION

- The treatment of *BalakabahariMathirai* for *SooliKanam* showed good response.
- No adverse effect were noticed during the course of treatment
- The ingredients of trial medicine are easily available and harmless to children
- The cost of the trial medicine is comparatively very low.

Therefore it is concluded that the trial drug ‘‘BalakabahariMathirai’’ along with the modalities of Pranayama and Yogasanas will benefit the society in treating Childhood Asthma.

The Tamil Nadu Dr.M.G.R. Medical University

#69, Anna salai, Guindy, Chennai-600 032.

This certificate is awarded to

Dr./~~Mr.~~/~~Ms.~~ K. BALAJI

for participating as ~~Resource Person~~ / Delegate in the Fifteenth Workshop on

"Research Methodology & Biostatistics"

for AYUSH Post Graduates & Researchers

Organised by the Department of Siddha

The Tamil Nadu Dr. M.G.R. Medical University from 23.06.2014 to 27.06.2014.

Dr. N. KABILAN M.D. (Siddha)
Reader, Dept. of Siddha

Dr. JHANSI CHARLES, M.D.
Registrar

Prof. Dr. D. SHANTHARAM, M.D., D.Diab.,
Vice-Chancellor

GOVT. SIDDHA MEDICAL COLLEGE

PALAYAMKOTTAI

SCREENING COMMITTEE

Candidate Reg. No: 321314001

Department: KUZHANTHAI MARUTHUVAM [BRANCH IV]

This is to certify that the dissertation topic AN OPEN CLINICAL STUDY TO EVALUATE THE CLINICAL EFFICACY OF SIDDHA SASTHRIC FORMULATION BALAKABAHARI MATHIRAI FOR THE TREATMENT OF SOOLAI KANAM has been approved by the screening committee.

Branch	Department	Name	Signature
1	Pothu Maruthuvam	Dr.S.Aathi Narayanan MD(S).,	
2	Gunapadam	Dr.M.Ravi Chandran MD(S).	
3	Sirappu Maruthuvam	Dr.S.Kaniraja MD(S).,	
4	Kuzhanthai Maruthuvam	Dr.D.K.Soundararajan MD(S).,	
5	Noi Nadal	Dr.S.K.Sasi MD(S).,	
6	Naju Nool Maruthuvam	Dr.M.Thiruthani MD(S).,	

Remarks:

GOVT. SIDDHA MEDICAL COLLEGE, PALAYAMKOTTAI

(Branch.IV..Dept. of KUZHANTHAI MARUTHUVAM**)**

NAME	Dr. K. BALAJI
REGISTER NO	321314001
BATCH	2013 - 2016 [OCTOBER BATCH]
DURATION OF DISSERTATION	24 MONTHS
TOPIC OF DISSERTATION	SOOLI KANAM
NAME OF THE TRAIL DRUG	BALAKABAHARI MATHIRAI
INGREDIENTS OF THE TRIAL DRUG	BALAKABAHARI MATHIRAI 1. ADHIMADHURAM 2. KOSHTAM 3. CHUKKU 4. MILAGU 5. ARISI THIPPILI 6. LAVANGA PATTAI 7. LAVANGA PATHIRI 8. SIRUNAGAPOO 9. KADUGAROHINI 10. SITHARATHAI 11. AKARAKARAM 12. VELICHAPPUDN 13. INDHUPPU 14. THETRAN VIDHAI 15. ADATHODAI
DOSAGE	$\frac{1}{2}$ - 1 TABLET
VEHICLE / ADJUVANT	HONEY
INDICATION	ERUMAL, KUTHIRUMAL, KANAROHANGAL, PELAIROHANGAL, KABAROHANGAL
REFERENCE	AGATHIYAR PILLAI THAMIL [Pg. No: 115]

I humbly request that the topic for dissertation and the trial drug may be kindly permitted.

Signature of the Candidate

Faculty of the department
பட்டமேற்படிப்பு-குழந்தை மருத்துவமுறை
அரசினர் சித்த மருத்துவக் கல்லூரி
பாளையங்கோட்டை - 627 002.

Head of the department
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Reader - HOD
Dept. of Kuzhanthai Maruthuvam
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Palayamkottai.

INSTITUTIONAL ETHICAL COMMITTEE,
GOVERNMENT SIDDHA MEDICAL COLLEGE, PALAYAMKOTTAI,
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F.No.GSMC/ 5676/P&D/Res/IEC/2014 Date:16.07.2015

CERTIFICATE OF APPROVAL

Address of Ethical Committee	Government Siddha Medical College, Palayamkottai,Tirunelveli, Tamilnadu, India.Pincode- 627002.
Principal Investigator	Dr.K.BALAJI ,MD(S)-II year, Department of Kuzhanthai Maruthuvam, Reg.No:**321314001**
Guide	Dr.D.K.SOUNDARARAJAN,MD(S), Head of the Department, Dr.K.SHYAMALA,MD(S), Assistant Lecturer, Department of Kuzhanthai Maruthuvam, Govt. Siddha Medical College and Hospital, Palayamkottai. -627002.
Dissertation Topic	An observational clinical study **of "SOOLI KANAM"** with the efficacy of **BALAKABAHARI MATHIRAI**
Documents Filed	1)Protocol 2) Data Collection Forms 3) Patient Information Sheet 4) Consent form 5)SAE (Pharmacovigilance)
Clinical / Non Clinical Trial Protocol	Clinical Trial Protocol – Yes
Informed Consent Document	Yes
Any Other Document	Case Sheet, Investigation Documents
Date of IEC Approval & its Number	GSMC-II-IEC/2015-Br-IV/01/16.07.2015

We approve the trial to be conducted in its presented form.

The Institutional Ethical Committee expects to be informed about the process report to be submitted to the IEC at least annually of the study, any SAE occurring in the course of the study, any changes in the protocol and submission of final report.

Chairman 16/7/2015
(Prof. Dr. M.Logamanian)

Member Secretary
(Prof.Dr.S.Soundararajan)

(For IAEC / CPCSEA usage)

Proposal number	: K.BALAJI/321314001 MD(S)/IAEC/KMCP/231/2015-16
Date first received	: 08.12.2015
Date received after modification (if any)	: NA
Date received after second modification (if any)	: NA
Approval date	: 15.12.2015
Expiry date	: 31.03.2016
Name of IAEC / CPCSEA chairperson	: N.CHIDAMBARANATHAN

Date: 15.12.2015

CPCSEA NOMINEE
INSTITUTIONAL ANIMAL ETHICS COMMITTEE
K.M. COLLEGE OF PHARMACY
MADURAI-625 107

Signature

I. A. E. C. CHAIRMAN
INSTITUTIONAL ANIMAL ETHICAL COMMITTEE
K. M. COLLEGE OF PHARMACY
MADURAI-625 107.

GOVERNMENT SIDDHA MEDICAL COLLEGE

PALAYAMKOTTAI

Certificate of Botanical Authenticity

Certified the following plant drugs used in Siddha formulation **BALAKABAHARI MATHIRAI** for the management of **SOOLI KANAM(BRONCHIAL ASTHMA)**taken up for Post Graduation Dissertation Studies by **Dr.K.BALAJI (Reg No.321314001)** PG Dept, of Kuzhanthai Maruthuvam are correctly identified and autherticated through Visual inspection / Organoleptic Characters / Experience, Education & Training Morphology Microscopical and Taxonomical methods.

***DRUG* :BALAKABAHARI MATHIRAI**

INGREDIENTS:

S.N	Name	Botanical Name	Family	Parts used
1.	Adhimadhuram	Glycyrrhizaglabra	Fabaceae	Root
2.	Koshtam	*Costusspeciosus*	Costaceae	Root
3.	Chukku	*Zingiberofficinalae*	Zingiberaceae	Rhizome
4	Milagu	*Piper nigrum*	Piperaceae	Dried fruit
5.	ArisiThippli	*Piper longum*	Piperaceae	Dried fruit
6.	Lavangapattai	*Cinnamomumverum*	Lauraceae	Bark
7.	LavangaPathiri	*Cinnamomumtamela*	Lauraceae	Leaves
8.	Sirungapoo	*Mesuanagassarium*	Calophyllaceae	Flower
9.	Kadugurogini	*Picrohizascrophulariiflora*	Plantaginaceae	Root
10.	Chitrarathai	*Alpiniagalanga*	Zingiberaceae	Root
11.	Akkarakaram	*Anacyclus pyrethrum*	Asteraceae	Root
12.	Velichapisin	*Gardenia resinifera*	Rubiaceae	Resin
13.	Thettranvithai	*Strychnospotatorum*	Loganiaceae	Seed
14.	Adathodai	*Adhatodavasica*	Acanthaceae	Leaves

Station: Palayamkottai

Date: 22/12/15

22/12/15

Authorized Signature

Dr. S. SUTHA, M.Sc.,M.Ed.,Ph.D.,
Associate Professor
Dept. of Medicinal Botany
Govt. Siddha Medical College
Palayamkottai, Tirunelveli - 2.

GOVERNMENT SIDDHA MEDICAL COLLEGE

PALAYAMKOTTAI

Certificate of Gunapadam Authenticity

Certified the following mineral drug used in Siddha formulation **BALAKABAHARI MATHIRAI** for the management of **SOOLI KANAM (BRONCHIAL ASTHMA)** taken up for Post Graduation Dissertation Studies by **Dr. K.BALAJI (Reg. No. 321314001)** PG Dept, of Kuzhanthai Maruthuvam are correctly identified and authenticated through Visual Inspection / Organoleptic Characters / Experience, Education and Training Morphology Microscopical methods.

Sl.No.	Name	Chemical Name
1.	Indhuppu	Sodium Chloride Impura

Station: Palayamkottai,

Date: 18/11/22

Authorized Signature

துணைத்தலைவர்
பட்டமேற்படிப்பு - குணபாடத்துறை
அரசினர் சித்த மருத்துவக்கல்லூரி
பாளையங்கோட்டை.

BIO-CHEMICAL ANALYSIS OF BALAKABAHARI MATHIRAI

Preparation of the extract:

5gms of the drug was weighed accurately and placed in a 250ml clean beaker then 50ml of distilled water is added and dissolved well. Then it is boiled well for about 10 minutes. It is cooled and filtered in a 100ml volumetric flask and then it is make up to 100ml with distilled water. This fluid is taken for analysis.

QUALITATIVE ANALYSIS

S.NO.	EXPERIMENT	OBSERVATION	INFERENCE
1.	**TEST FOR CALCIUM** 2ml of the above prepared extract is taken in a clean test tube. To this add 2ml of 4% Ammonium oxalate solution	A white precipitate is formed	**Indicates the presence of calcium**
2.	**TEST FOR SULPHATE** 2ml of the extract is added to 5% Barium chloride solution.	A white precipitate is formed	**Indicates the presence of sulphate**
3.	**TEST FOR CHLORIDE** The extract is treated with silver nitrate solution	A white precipitate is formed	**Indicates the presence of chloride**
4.	**TEST FOR CARBONATE** The substance is treated with concentrated Hcl.	No brisk effervescences is formed	Absence of carbonate
5.	**TEST FOR STARCH** The extract is added with weak iodine solution	Blue colour is formed	**Indicates the presence of starch**
6.	**TEST FOR FERRIC IRON** The extract is acidified with Glacial acetic acid and potassium ferro cyanide.	No blue colour is formed	Absence of ferric iron indicates the absence
7.	**TEST FOR FERROUS IRON** The extract is treated with concentrated Nitric acid and	Blood red colour is formed	**Indicates the presence of Ferrous iron**

	Ammonium thiocyanate solution		
8.	**TEST FOR PHOSPHATE** The extract is treated with Ammonium Molybdate and concentrated nitric acid	No yellow precipitate is formed	Absence of phosphate
9.	**TEST FOR ALBUMIN** The extract is treated with Esbach's reagent	No yellow precipitate is formed	Absence of albumin
10.	**TEST FOR TANNIC ACID** The extract is treated with ferric chloride.	Blue black precipitate is formed	**Indicate the presence of Tannic acid**
11.	**TEST FOR UNSATURATION** Potassium permanganate solution is added to the extract	It gets decolourised	**Indicates the presence of Unsaturated compound**
12.	**TEST FOR THE REDUCING SUGAR** 5ml of Benedict's qualitative solution is taken in a test tube and allowed to boil for 2 minutes and add 8-10 drops of the extract and again boil it for 2 minutes.	No colour change occurs	Absence of reducing sugar
13.	**TEST FOR AMINO ACID** One or two drops of the extract is placed on a filter paper and dried well. After drying, 1% Ninhydrin is sprayed over the same and dried it well.	Violet colour is formed	**Indicates the presence of Amino acid**
14.	**TEST FOR ZINC** The extract is treated with Potassium Ferrocyanide.	No white precipitate is formed	Absence of zinc

Inference:

The above analysis indicates the presence of **Ferrous Iron, Calcium, Sulphate, Chloride, Starch, Amino acid, Tannic acid and Unsaturated compound.**

PHARMACOLOGICAL ANALYSIS
ANTISPASMODIC ACTIVITY OF SIDDHA PREPARATION BALAKABAHARI MATHIRAI IN SWISS ALBINO MICE

Introduction

The present study was carried outto see the effect of siddha preparation *BalakabahariMathirai*on muscle relaxant activity.

Material and methods

Animals used

Swiss albino mice of either sex with weighing 18-26 g were used. The animals were maintained on the suitable nutritional and environmental condition throughout the experiment. The animals were housed in polypropylene cages with paddy house bedding under standard laboratory condition for an acclimatization periods of 7 days prior to performing the experiment. The animals were fed with commercially available rat pelleted diet. Water was allowed *ad libitum* under strict hygienic conditions.

Rotarod

The rotarod apparatus consists of a metal rod (3 cm diameter) coated with rubber attached to a motor with the speed adjusted to 2 rotations per minute. The rod is 75 cm in length and is divided into 6 sections by metallic discs, allowing the simultaneous testing of 6 mice. The rod is in a height of about 50 cm above the tabletop in order to discourage the animals from jumping off the roller. Cages below the section serve to restrict the movements of the animals when they fall from the roller. Swiss albino mice underwent a pretest on the apparatus. Only those animals, which had demonstrated their ability to remain on the revolving rod (20 rpm) for 5 min, were used for the test.(1,2,3). Swiss albino mice were divided into four groups consisting of six animals each. Group I served as control which received saline solution , animals of group II received standard drug Diazepam at a dose of (5mg/kg, i.p.) while Group III & IV received the siddha preparation *BalakabahariMathirai* at a dose of 15mg/kg and 30 mg/kg, p.o. The animals were placed on the rotating rod and fall off time i.e, when the animal falls from the rotating rod, was recorded, which was taken as grip strength.

Traction test(4)

Placing the forepaws of the mice in a small twisted wire rigidly supported above the bench top did the screening of animal. Normally the mice grasp the wire with the forepaws, and place at least one hind foot on the wire without 5 second when allowed to hang free.The test was conducted on four groups of animals (n=8) that were previously screened, 30 min after the administration of siddha preparation *BalakabahariMathirai*, diazepam (5 mg/kg) and saline solution as a vehicle control. Inability to put up at least one hind foot on the wire is counted as negative value.

Statistical analysis

The data obtained in present investigation was subjected to statistical analysis. All results are expressed as Mean ± SEM (standard error of mean); Six animals in each group. All statistical comparisons were made by Newmannkeuls multiple range tests after conducting one -way ANOVA.

Results and Conclusion

Rotorod test

In this test, siddha preparation *BalakabahariMathirai*(15 and 30 mg/kg) both significantly reduced the time spent by the animals on revolving rod when compared to Control ($P<0.05$). The standard drug (diazepam) also showed significant effect when compared to control ($P<0.01$). (Table I).

Traction test

In traction test, siddha preparation *BalakabahariMathirai* (15 and 30 mg/kg) both significantly decreases the muscle co-ordination activity of mice compared with Control ($p< 0.05$).(Table II).

The siddha preparation *BalakabahariMathirai* (15 and 30 mg/kg)was pharmacologically screened for its muscle relaxant study. The result indicates that siddha preparation *BalakabahariMathirai*(15 and 30 mg/kg) possess a significant skeletal muscle relaxant activity in experimental animals. At dose of 15 and 30 mg/kg it showed highly significant skeletal muscle relaxant activity at 30min of duration. Further studies are in progress to isolate the active constituents

responsible for this activity. The muscle relaxation may be produced due to depolarizing blockage of neuromuscular junction.Based on the results of the present study, we conclude that the siddha preparation *BalakabahariMathirai* (15 and 30 mg/kg) possess significant skeletal muscle relaxant activity. However, further studies are necessary to find the exact mechanism of skeletal muscle relaxant effect and to isolate the active compound(s) responsible for this pharmacological activity.

Table I: Effect different treatment on duration of time spent on rotarod

Group	Dose	0 minutes	30 minutes
Normal control	10mg/kg saline	330.25 ± 22.85	322.7±24.85
Diazepam	5mg/kg i.p	335.8±24.90	105.4±10.50**
BalakabahariMathirai	15mg/kg p.o	320.5±22.80	185.5±14.20*
BalakabahariMathirai	30mg/kg p.o	324.6±23.55	210.2±15.80*

Values are expressed in mean± SEM; n=6; *p<0.05, *p<0.01 considered highly significant

Table II: Effect of different treatment on motor co-ordination in mice

Group	Dose	% Response
Normal control	10mg/kg saline	0
Diazepam	5mg/kg i.p	100
BalakabahariMathirai	15mg/kg p.o	69*
BalakabahariMathirai	30mg/kg p.o	61*

Values are the percentage animals showing negative results;
n = 6; *p< 0.05 compared with control (Chi-square test).

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ANTIHISTAMINIC AND ANTIANAPHYLACTIC ACTIVITY OF SIDDHA FORMULATION OF BALAKABAHARI MATHIRAI

Introduction

Allergy is one of the common diseases that affect mankind with diverse manifestations. The prevalence of allergy and asthma has risen in the recent years despite an improvement in the general health of the population.[1] Allergic diseases are responsible for significant morbidity and have severe economic impact.[2] Various epidemiological studies have identified the causes for an increase in the prevalence of upper and lower respiratory tract allergic diseases. Some of the postulated reasons are increasing environmental pollution [3] and increased predisposition of individuals producing excessive Ig_E through a major change in the gene pool, changing lifestyles, and an increasing awareness of the disorders.[4] Intensive research during the last several decades has highlighted the role of lymphocytes, immunoglobulins, mast cells, and various autacoids in the etiopathogenesis of allergic conditions. Inspite of the voluminous literature on the subject, the treatment of allergic diseases continues to be far from satisfactory. The available treatment options for upper and lower respiratory tract allergic diseases have major limitations owing to low efficacy, associated adverse events, and compliance issues.[5]

AYUSH, an Indian system of medicine, has described several drugs from indigenous plant sources for use in the treatment of bronchial asthma and allergic disorders. In the present study, the effects of Siddha formulation of balakabahari mathirai were studied on the active anaphylaxis and mast cell stabilization in rats, and histamine-induced bronchospasm in guinea pigs.

Materials and Methods

Animals

Inbred Wistar rats (175–200 g) and guinea pigs (400–600g) of either sex housed in standard conditions (temperature22 ± 2° C, relative humidity 60 ± 5% and 12 h light/dark cycle) were used. They were fed with standard pellet diet and water ad libitum. The Institutional Animal Ethics Committee approved the experimental protocol. Histamine and horse serum were procured from Sigma Chemicals and toluidine blue from Loba-Chemie, Mumbai. Elisa kit for Ig_E was supplied by Orion diagnostics, Espoc,

Finland. All other chemicals and reagents were procured from Hi-Media Laboratories limited, Mumbai.

Mast cell stabilizing activity

Treatment protocol

Twenty-four rats were divided into Five groups of six animals in each group.

Group I served as control and received vehicle (water).

Group II (sensitized control group)

GroupIII served as the treatment control, which was treated with balakababahari mathirai

at a dose of 200mg/kg body weight, in oral route.

Group IV served as the treatment control, which was treated with balakababahari mathirai

at a dose of 400 mg/kg body weight, in oral route.

In group11 to group 1V were sensitized by injecting 0.5 ml of horse serum subcutaneously along with 0.5 ml of triple antigen containing 20,000 million Bordetella pertussis organisms (Serum Institute of India Ltd.,Pune), Once a day for 14 days.

On day 14, the rats were sacrificed 2 h after the treatment and the intestinal mesentry was taken out for the study on mast cells. Mesentries along with intestinal pieces were excised and kept in Ringer Locke solution (NaCl 154, KCl 5.6, CaCl2 2.2, NaHCO3 6.0, glucose 5.55 mM/L of distilled water) at 37oC. The mesenteric pieces were challenged with 5% horse serum for 10 min after which the mast cells were stained with 1.0% toluidine blue and examined microscopically for the number of intact and degranulated mast cells.[6]

Histamine-induced bronchospasm in guinea pigs

Bronchospasm was induced in guinea pigs by exposing them to 1% histamine aerosol under constant pressure (1 kg/cm2) in an aerosol chamber (24 × 14 × 24 cm) made of perplex

Glass,of the three groups of six animals each.

Group I served as control.

GroupII served as the treatment control, which was treated with balakababahari mathirai

at a dose of 200 mg/kg body weight, in oral route.

Group III served as the treatment control, which was treated with balakababahari mathirai

at a dose of 400 mg/kg body weight, in oral route.

The animals were exposed to 1% histamine aerosol under constant pressure (1 kg/cm2) in an aerosol chamber on day 0 without any treatment. The end point,preconvulsive dyspnea (PCD) was determined from the time of aerosol exposure to the onset of dyspnea leading to the appearance of convulsions.[7] As soon as PCD commenced, the animals were removed from the chamber and exposed to fresh air. This PCD was taken as day 0 value. On days 1 and 5,

2 h after the administration of the drug, the time for the onset of PCD was recorded as on day 0.

Statistical analysis

The results of various studies were expressed as mean ± SEM and analyzed statistically using one-way ANOVA, followed by Newmann keul's multiple range tests. $P<0.05$ was considered statistically significant.The analysis was performed using Graphpad Prism software package (Version 4.0).

RESULTS

Mast cell stabilizing potential of balakababahari mathirai Antigen challenge resulted in significant degranulation of the mesentric mast cells. Pretreatment of sensitized animals with balakababahari mathirai at a dose of 200mg/kg and 400mg/kg, p.o., for 2 weeks resulted in a significant reduction in the number of disrupted mast cells ($P <0.001$) when challenged with horse serum.

Effect on histamine-induced bronchospasm

balakababahari mathirai at a dose of 200mg/kg and 400mg/kg p.o., significantly prolonged the latent period of PCD ($P < 0.001$) as compared to control, following exposure to histamine aerosols on day 5 [Table no. 2].

Discussion

Experimental animal model of asthma is characterized by allergen-induced immediate airway constriction and late airway reactivity to a pharmacological vasoconstrictor such as histamine and leukotrienes. Histamine is a central mediator in the pathogenesis of allergic and inflammatory disorders. In the present study, balakababahari mathirai prolonged the latent period of PCD in guinea pigs following histamine aerosol. This may be suggestive of an antihistaminic activity following treatment with balakababahari mathirai.

Antigen challenge, in sensitized animals, results in the degranulation of mast cells, which is an important feature of anaphylaxis. In the present study, balakababahari mathirai showed marked protection against the mast cell degranulation following antigen challenge in sensitized animals. Mast cell stabilizing activity of balakababahari mathirai may be attributed to the presence of active constituents which are known for their mast cell stabilizing potential against antigen–antibody reaction and/or due to the suppression of IgE antibody production, which is responsible for degranulation mast cells.[8]

This antianaphylactic and antihistaminic effect may be caused by the stabilization of the mast cell membrane, suppression of IgE, and inhibition of pathological effects induced by the release of inflammatory mediators in balakababahari mathirai treated animals. All the above findings lend credence to the beneficial use of balakababahari mathirai in the treatment of asthma and related conditions.

However, further studies with other experimental models, especially to explore the role of cytokines are warranted to substantiate the antiasthmatic and antiallergic activity of balakababahari mathirai.

References

1. Ring J, Kramer U, Shafer T, Beherendt H. Why are allergies increasing? Curr Opinions Immunol 2001;13:701-8.

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ANTIMICROBIAL STUDIES

Aim

To study the Antimicrobial action of *"BalakabahariMathirai"* by *"paper disc agar diffusion method"* (Kirby – bauyer method).

Medium

Muller Hinton Agar

Components of Medium

Beef extract	- 300 g /lit
Agar	- 17 g/lit
Starch	- 1.5 mg/lit
Casein Hydrolysate	- 17.5 g / lit
Distilled water	- 1000 ml
pH	- 7.6

Procedure

Preparation of inoculum

The given microorganism is inoculated in 1ml of peptone water under sterile condition. The inoculum is incubated at 37˚C for 2 hrs then the turbidity of the inoculums is adjusted to 0.5µc farland turbidity standard. The inoculum was poured in a Muller Hinton agar plate and uniformly spreaded over the plate. The excess inoculum was discarded.

Disc preparation

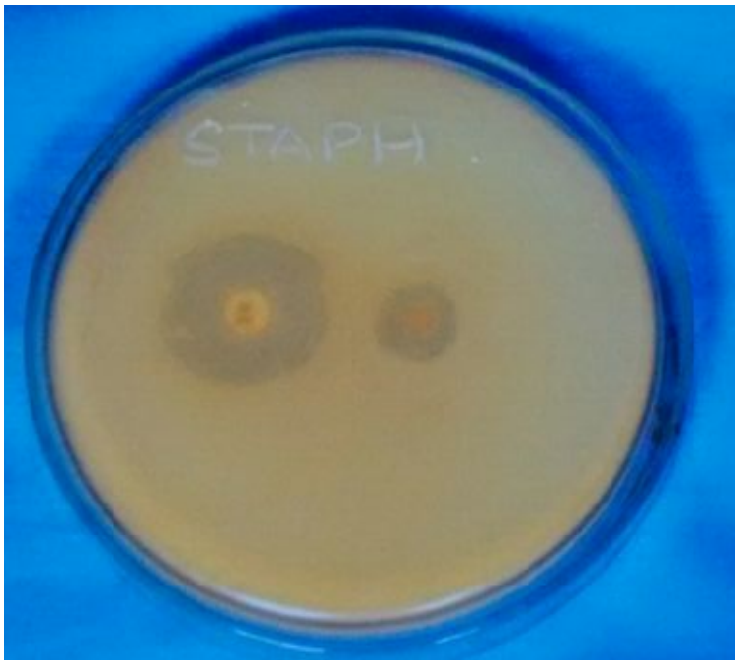
The known quantity of the given chemical compound is impregnated in a 6mm diameter filter paper disc and applied over the inoculum. Then the Muller Hinton agar plate is incubated at 37˚C for overnight. The zoneclearance is measured with a scale and the sensitivity of the organisms to the given trail drug is assessed.

The diameter of zone of inhibition was observed and recorded.

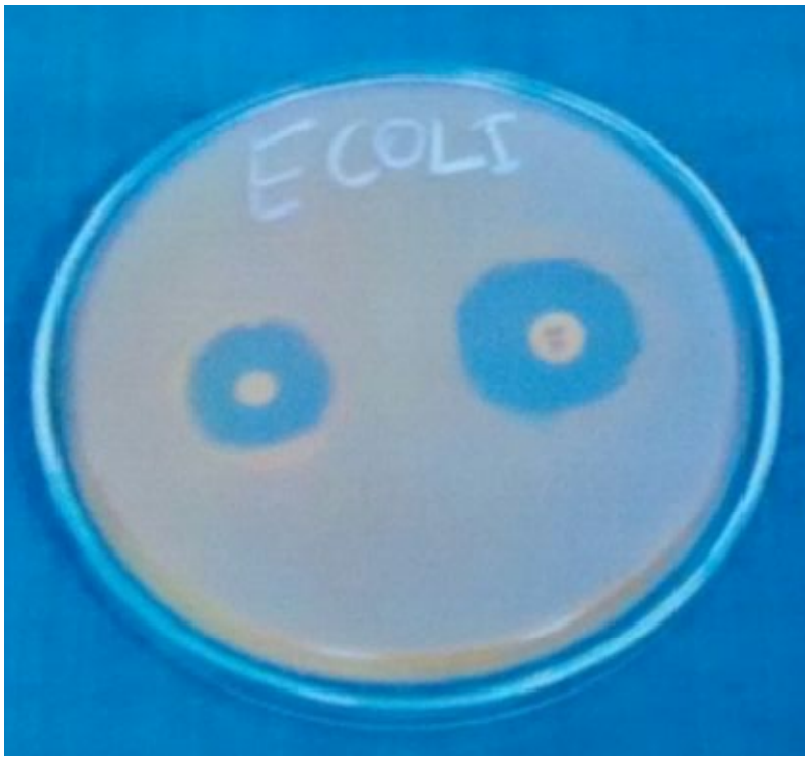
TABULATION OF ANTIMICROBIAL ACTIVITY OF TRIAL MEDICINES

S.No.	Drug	Organism	Sensitivity	Zone size of drug	Zone size of control (Amikacin)
1.	BALAKABAHARI MATHIRAI	Staphylococcus aureus	Moderate Resistant	8mm	15mm
2.	BALAKABAHARI MATHIRAI	Streptococcus pneumoniae	Sensitive	10mm	16mm
3.	BALAKABAHARI MATHIRAI	Escherichia coli	Sensitive	12mm	15mm

Streptococcus pneumonia



Staphylococcus aureus



Escherichiacoli

MALAR MICRO DIAGNOSTIC CENTRE

65,sri Ram Popular Road,Manakavalampillai Nagar,Palayamkottai,
Ph.lab,0462-2583954,Resi,2583955 Mobile 952459192

Name : Dr.K.BALAJI

Anti Microbial Study

Method : Kirby Bauer

Name of the drug : Balakabahari mathirai

Name of the control : Amikacin

Report

S.No	Drug	Organism	Sensitivity	Zone size of Drug	Zone size of Control (Amikacin)
1.	BALAKABAHARI MATHIRAI	Staphylococcus aureus	Moderate Resistant	8mm	15mm
2.	BALAKABAHARI MATHIRAI	Escherichia coli	Sensitive	12mm	15mm
3.	BALAKABAHARI MATHIRAI	Streptococcus pneumoniae	Sensitive	10mm	16mm

Dr.R.Napoleon,MD.,
Consultant Microbiologist

Dear Doctor,

Thank you for your reference. If the result is not correlating with the clinical impression, please inform us to repeat the test with a fresh sample

CME PROGRAMME FOR TEACHING FACULTIES

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DEPARTMENT OF KUZHANTHAI MARUTHUVAM (PAEDIATRICS)
& MAGALIR MARUTHUVAM
GOVT. SIDDHA MEDICAL COLLEGE, Palayamkottai

CERTIFICATE

Certified that Dr. BALAJI. K

PG SCHOLAR - FINAL YEAR

has successfully participated as a Trainee on the six days of continuing Medical Education training programme for Teaching faculties from 8th to 13th of February 2016 held at Govt. Siddha Medical College, Palayamkottai.

13/2/16

Prof. Dr. D.K.SOUNDARARAJAN MD (s)
Head of the Department
Kuzhanthai Maruthuvam

Prof. Dr. S.SOUNDARARAJAN MD (s)., BL
Principal

CONTINUING MEDICAL EDUCATION PROGRAMME

Organized by

POST GRADUATE DEPARTMENT OF KUZHANTHAI MARUTHUVAM (PAEDIATRICS)

GOVT. SIDDHA MEDICAL COLLEGE, Palayamkottai

CERTIFICATE

This is to Certify that Dr..... BALAJI . K .....

..... THIRD YEAR - PG ..... *has actively participated in the continuing Medical*

Education training programme held on ***22nd June 2016****. at Govt. Siddha Medical College, Palayamkottai*

This programme focused on a Seminar on ***"Metabolic Illness"***

Dr. K.SHYAMALA, M.D(s)
Co-ordinator

Prof.Dr. D.K.SOUNDARARAJAN, M.D(s)
Head of the Dept.

Prof.Dr. S.VICTORIA, M.D(s)
Principal

GOVT SIDDHA MEDICAL COLLEGE AND HOSPITAL

PALAYAMKOTTAI

PG DEPARTMENT OF KUZHANTHAI MARUTHUVAM

CONSENT FORM

An open clinical study to evaluate the safety and efficacy of Siddha sasthric formulation **" BalakabahariMathirai"** for the management of **SooliKanam (Childhood Asthma)**

CERTIFICATE BY INVESTIGATOR

I certify that I have disclosed all the details about the study in the terms readily understood by the parent

Date : Signature :

Place : Name :

CONSENT OF INFORMANT

I have been informed to my satisfaction, by the attending physician, the purpose of the clinical trial, and the nature of drug treatment and follow up including the laboratory investigations to be performed to monitor and safeguard my Son / Daughter body functions.

I am aware of my right to opt out to tail at any time during the course of the trial without having to give the reasons for doing so.

I am exercising my free power of choice, here by give my consent to be included as a subject in the clinical trial of **"BalakabahariMathirai"** for the treatment of **SooliKanam (Childhood Asthma).**

Date	:	Informant Signature	:
Place	:	Patient Name	:
Signature of witness	:	Informant Name	:
		Relationship	:

GOVT SIDDHA MEDICAL COLLEGE AND HOSPITAL

PALAYAMKOTTAI

PG DEPARTMENT OF KUZHANTHAI MARUTHUVAM

PROFORMA OF CASE SHEET FOR SOOLI KANAM

IP. No.	:	Religion	:
Bed No.	:	Parents occupation	:
Name	:	Income	:
Age	:	Date of admission	:
Sex	:	Date of discharge	:
Address	:	Diagnosis	:
Informant	:	Medical officer	:

1. Complaints and duration :
2. History of present illness :
3. History of past illness :
4. Antenatal history :
5. Birth history :
6. Neonatal history :
7. Developmental history :
8. Nutritional history :
9. Immunization history :
10. Family history :
11. Allergy and contact history :
12. Socio economic status :

GENERAL EXAMINATION

1. Level of consciousness :
2. Nutritional status :
3. Posture / Attitude :
4. Dysmorphic features :

5. Signs and respiratory distress :
6. Anemia :
7. Cyanosis :
8. Jaundice :
9. Clubbing :
10. Koilonychias :
11. Lymphadenopathy :

Anthropometry

1. Height :
2. Weight :
3. Head circumstances :
4. Mid arm circumstance :

Vital sign

1. Temperature :
2. Pulse rate :
3. Respiratory rate :
4. Heart rate :
5. Blood pressure :

SIDDHA ASPECTS

Nilam

1. Kurinnji :
2. Mullai :
3. Marutham :
4. Neithal :
5. Paalai :

Paruvakaalam

1. Kaar :
2. Koothir :
3. Munpani :
4. Pinpani :
5. Elavenil :

6. Muthuvenil :

Poripulangal

1. Mei :
2. Vaai :
3. Kan :
4. Mooku :
5. Sevi :

Kanmenthiriyam

1. Kai :
2. Kaal :
3. Vaai :
4. Eruvai :
5. Karuvai :

Uyirthathukkal

Vadham

1. Praaanan :
2. Abaanan :
3. Viyaanan :
4. Uthaanan :
5. Samaanan :
6. Naagan :
7. Koorman :
8. Kirukaran :
9. Devathathan :
10. Dhananjeyan :

Pitham

1. Analpitham :
2. Ranjagam :
3. Saadhagam :
4. Praasagam :
5. Aalossagam :

Kabam

1. Avalambagam :
2. Kilethagam :
3. Pothagam :
4. Tharpagam :
5. Santhigam :

UdalKattugal

1. Saaram :
2. Senneer :
3. Oonn :
4. Kozhuppu :
5. Enbu :
6. Moolai :
7. Sukkilam / Suronitham :

Envagaithervugal

1. Naadi :
2. Sparisam :
3. Naa :
4. Niram :
5. Mozhi :
6. Vizhi :
7. Malam :
8. Moothiram :

MODERN ASPECTS

Respiratory system

1. Inspection :
2. Palpation :
3. Percussion :
4. Auscultation :

Examination of other system

1. Cardiovascular system :

2. Gastrointestinal system :
3. Central nervous system :
4. Excretory system :
5. Musculoskeletal system

Laboratory investigation

Blood

1. TC :
2. DC :
3. ESR (1 hr) :
4. Hb % :

Urine

1. Albumin :
2. Sugar :
3. Deposits :

Stools

1. Ova :
2. Cyst :

Others

1. X ray chest :
2. Other investigation :
3. Summary of the case :
4. Differential diagnosis :
5. Diagnosis :
6. Treatment :
7. Prognosis :
8. Prevention :

GOVT SIDDHA MEDICAL COLLEGE AND HOSPITAL

PALAYAMKOTTAI

PG DEPARTMENT OF KUZHANTHAI MARUTHUVAM

ADMISSION DISCHARGE CASE SHEET

IP. No.	:	Religion	:
Bed No.	:	Parents occupation	:
Name	:	Income	:
Age	:	Date of admission	:
Sex	:	Date of discharge	:
Address	:	Diagnosis	:
Informant	:	Medical officer	:

S.No.	Clinical features (Signs and symptoms)	During admission	During discharge
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

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- Thotrakramaaraichiyum siddha maruthuvavaralarum –Dr.Uthamarayan
- Pillaipini Maruthuvam – Dr.R.Sundarrajan
- Noigaluku siddha parikaram – Dr.M.Shanmugavelu
- Madalai noi thoguthi
- Noi illa neri – Dr.Durairasan
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- Agathiyar Valathi Nadinool
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